...HNOLOGY DEPT.

TEXTILE WORLD

PUBLIC LIBRARY
NOV 23 1945
DETROIT

McGraw-Hill Publication ---------- NOVEMBER • 1945

Industry Plans to RENOVATE, MODERNIZE, and ENLARGE

PAGE 103

"You're Right!

Your Business Is Different!"

Each business has its own peculiar problems.

That is why Commercial factoring is so flexible —a modern method of financing—suited to your particular needs. Immediate working capital is made available through your accounts receivable. Cash is forwarded to you as shipments are made. Yet you sell on your regular terms. Credit losses and collection expense are assumed by us.

Let us tell you how Commercial factoring increases turnover and profits.

COMMERCIAL FACTORS CORPORATION

Fred'k Vietor & Achelis, Inc.
Established 1828

Schefer, Schramm & Vogel
Established 1838

Peierls, Buhler & Co., Inc.
Established 1893

TWO PARK AVENUE, NEW YORK

EUGENE G. LYNCH, 80 FEDERAL STREET, BOSTON, MASS.
T. HOLT HAYWOOD, WINSTON-SALEM, NORTH CAROLINA

TEXTILE WORLD, Vol. 95, No. 11, November, 1945. Published monthly by McGRAW-HILL PUBLISHING CO., INC. (Bragdon, Lord & Nag... Division). Publication Office, 99-129 North Broadway, Albany, N. Y. RETURN POSTAGE GUARANTEED. Editorial and Executive Offices 330 West 42nd Street, (18) N. Y. Allow at least ten days for change of address.
Subscriptions: United States and Possessions, and Latin American Republics, $1.50 a year, $2.00 for two years, $3.00 for three years. Canada $2.00 a year, $3.00 for two years, $4.00 for three years. Great Britain and British Possessions, 12 shillings for one year, 27 shillings for three years. All other countries $2.00 for one year, $4.50 for three years. Please indicate position and company connection on all subscription orders. Entered as second class matter August 25, 1936, at Post Office, Albany, N. Y., under the act of March 3, 1879. Printed in U. S. A. Twenty-five cents per copy.

Precision Built Looms Require Precision Built Repairs

Why?

When Looms were built by the "try and fit" method—with plenty of filing while being assembled—there was considerable leeway in making repairs

That was the general practice of all textile machine builders when we brought out the first Northrop loom

Experience soon proved that certain parts on an automatic loom must be made with a nearer approach to accuracy

Over the years the increasing demands upon the automatic loom have called for an increasing degree of accuracy in the making of separate parts—and of the many mechanisms as a whole—to insure satisfactory results on the many fabrics to which the loom has been adapted

Looms today Require Precision Parts

We sell you looms to do the job you specify ❖ ❖ We stand behind them

Substitute repair parts are Mongrels ❖ ❖ They are made by those who have no responsibility for continued satisfactory operation of your looms ❖ ❖ Their use endangers both the quantity and quality of your product

Use only Loom Repair Parts made by those who know and will stand by you on results

Draper Corporation

Atlanta Hopedale Spartanburg

You'll Have to Do More Efficient Bleaching!

As America's textile industry reverts to peacetime production, efficient bleaching becomes more important than ever.

Mathieson's textile research organization has been busy on the development of new equipment, new chemicals and new techniques to make many of your post war operations faster, better and more economical.

Take the Mathieson "Continuous Open-Width Steamer" for example. Mathieson's textile research organization had designed this equipment to eliminate kier and jig scouring and reduce processing time. During the war, mills utilized this equipment to great advantage for scouring alone when high production was essential. Now that mills will do more bleaching, many will use it to scour and bleach continuously . . . and Mathieson TEXTONE (a textile chlorite product) used in Mathieson's Steamer will give you advantages never before considered possible.

Mathieson has a new booklet on its "Continuous Open-Width Steamer" which you'll want to read. Send for it today.

THE MATHIESON ALKALI WORKS (Inc.)
60 East 42nd Street, New York 17, N. Y.

Mathieson
CHEMICALS

SODIUM CHLORITE . . . CHLORINE DIOXIDE . . . H T H PRODUCTS . . . LIQUID CHLORINE . . . SODIUM METHYLATE . . . CAUSTIC SODA . . . SODA ASH . . . BICARBONATE OF SODA . . . FUSED ALKALI PRODUCTS . . . AMMONIA, ANHYDROUS & AQUA . . . SYNTHETIC SALT CAKE . . . DRY ICE . . . CARBONIC GAS

TABLE OF CONTENTS

Classified According to Reader Interest

← MILL DEPARTMENTS — FIBER DIVISIONS →

YARN PRODUCTION	WEAVING	KNITTING	FINISHING	ENGINEERING	MISCELLANEOUS	FEATURE ARTICLES	PAGE	COTTON	SYNTHETICS	WOOL	MISCELLANEOUS
Y	W	K	F	E	M	Intra-Industry Competition (Editorial)	4	C	S	W	M
Y	W	K	F	E	M	Industry to MODERNIZE and ENLARGE	103	C	S	W	M
Y		K				Cotton-Wool KNITTING YARN Cost	108	C		W	
			F			May Force FAST COLORS for Rugs	111		S	W	
	W					Quality NARROW FABRICS Cut Efficiency	112		S		
Y						Wider WOOL CARDS Answer Problems	115			W	
			F			Blotch PRINTING Spun Rayon with Vats	118		S		
Y	W	K	F	E	M	There's SAFETY for Your Help	120	C	S	W	M
				E		Fluorescent LAMP LIFE Calculated	122	C	S	W	M
Y	W	K	F	E	M	TRI Findings Add to TEXTILE DATA	125	C	S	W	M
Y						SHIRLEY ANALYZER	127	C			
		K	F	E		Try Air Conditioning BOARDING ROOM	131	C	S		
Y					M	Trash in COTTON Hurts Grade and Price	133	C			
Y	W	K	F	E	M	Opposes Congressional Action on WAGES	137	C	S	W	M
			F	E		Modern FLAME SINGERS	139	C			
		K				Knitter's Apprentice TRAINING	141	C	S	W	M
Y	W	K	F	E	M	FAR-EAST MILLS Aim at Quick Revival	147	C	S	W	M
Y	W	K	F	E	M	BRITISH Move to Control Textile Mills	149	C	S	W	M
Y	W	K	F	E	M	Dielectric HEATING Requirements	151	C	S	W	M
Y	W	K	F	E	M	ARMY TEXTILES Are Unsuitable Says QM	155	C	S	W	M
						KINKS AND SHORT-CUTS					
				E		Devises Test for HUMIDIFIER HEAD	166	C	S	W	M
	W			E		LOOM BINDER Tool for Fastening Strap	166	C	S	W	M
		K				Link-Counter Aids HOSIERY Pattern Work	168		S		
				E		Condensation Stopped for PAINT JOB	168	C	S	W	M
Y	W					Sorting Tray Aids Separation of QUILLS	170	C	S	W	
				E		Angle Box Strapping for Welding GUARD	170	C	S	W	M
				E		DOORS Numbered for Identification	170	C	S	W	M
			F	E		WATER CONSUMPTION Controlled	170	C	S	W	M
	W					HEEL-SPRING Strap Fastened With Band	170	C	S	W	M
	W		F	E		CLOTH-TRUCK Floor Replaced by Rails	172	C	S	W	M
						IN OTHER DEPARTMENTS					
		K	F			PREBOARDING Machine Features Control	159		S		
			F	E		PUMP Delivers 60 to 480 Gal. Per Min	159	C	S	W	M
	W		F	E	M	Marco Equipment GRINDS and BLENDS	159	C	S	W	M
	W					New SULZER LOOM Operates at 230 PPM	160	C	S	W	M
		K	F			PREBOARDING at Rate of 432 per Hour	160		S		
			F			FABRIC DRYING Controlled by Detector	160	C	S	W	M
				E		GENERATING LOAD Automatic Control	162	C	S	W	M
		K				Robaczynski Builds TWO-BAR TRICOT	162	C	S	W	M
Y	W	K				How to Tie Double WEAVER'S KNOT	178		S		
				E		OILLESS BEARING Use Approved	180	C	S	W	M
Y						Is There Formula For CUTTING FLUTES?	180	C	S		
			F			British Mill Uses PLASTICS With Wool	180		S	W	
Y						GADGETEERS Menace Spinning Production	182	C	S		
Y	W	K	F	E	M	Comment on SYNTHETICS SURVEY	186		S		
					M	Questions Strength of VINYLIDENE	186		S		
Y			F			Skein Production Increased on REELERS	188		S		
	W					YARNS TWIST When Running New Creel	190		S		
			F			PAPER-YARN Material Lacquer Coated	193				M
		K	F			KNIT-JERSEY Handling Problems	193	C	S	W	
			F			Bowing of BLANKETS Caused by Handling	194			W	
	W					Weaving LENO Fabrics	194	C	S		
	W				M	Formulas for CLOTH CALCULATIONS	196	C	S		

TEXTILE WORLD

NOVEMBER 1945 — VOLUME 95 NUMBER 11

A McGRAW-HILL PUBLICATION

Edwin D. Fowle.....*Publisher and Editor*
C. W. Bendigo.....*Executive Editor*
William B. Dall..... *Managing Editor*
Harold E. Reed..... *Assistant Editor*
Prentice M. Thomas..... *Assistant Editor*
Earle Mauldin.....*Southern Editor* (Atlanta)
C. M. Bowden...*Southern Editor* (Charlotte)
H. S. Knowlton....*New Eng. Editor* (Boston)
C. Norris Rabold..... *Consulting Editor*
D. D. Hogate... *Chief, Washington Bureau*
Gladys Montgomery ....*Washington Editor*
Robert McK. Fink..... *Art Director*

William Buxman .....**Manager**

Published monthly. United States and Possessions and Latin American Republics, $1.50 a year; Canada and all other countries, $2 U. S. currency or 12 shillings. Single copy, 25c. Please indicate position and company connection on all subscription orders. Annual index in "Textile World Yearbook & Catalog."

McGRAW-HILL PUBLISHING CO., INC. Publication Office, 99 N. Broadway, Albany 1, N. Y. Editorial and Executive Offices, 330 W. 42nd Street, New York 18, N. Y.—JAMES H. McGRAW, *Founder and Honorary Chairman;* JAMES H. McGRAW, Jr., *President;* CURTIS W. McGRAW, *Senior Vice-President and Treasurer;* HENRY G. LORD, *Vice-President;* HOWARD EHRLICH, *Vice-President for business operations;* WILLARD CHEVALIER, *Vice-President for editorial operations;* J. A. GERARDI, *Secretary;* J. E. BLACKBURN, *Director of Circulation.*

District Offices — Atlanta 3, Ralph C. Maultsby, Dist. Mgr., 1011 Rhodes-Haverty Building; Boston 16, Ralph L. Chisholm, Dist. Mgr., 1427 Statler Building; Chicago 11, M. C. MacKenzie, Dist. Mgr., 520 North Michigan Ave.; New York 18, Arch W. Fisher, Dist. Mgr., 330 West 42nd Street; Philadelphia 2, H. C. Harvey, Dist. Mgr., 16 South Broad Street; Washington 4, National Press Building; London WC 2, Aldwyck House.

Of this issue 18,905 copies were printed

Member of Audit Bureau of Circulations
Member of Associated Business Papers, Inc.

Contents copyrighted, 1945 by McGraw-Hill Publishing Co., Inc., (All rights reserved).

DEPARTMENTS

Book Reviews 176
Editorial 4
Free for the Asking.....244
Kinks and Short-Cuts.....166
Mill Maintenance 164
New Dyes and Chemicals.....162
News About Men.....272
News About Mills.....262
News About Suppliers.....254
News of the Month.....248
Pete and Bill 175
Questions and Answers.....188
Round Table 178
Textile Equipment News 159

THE Long-Range View

Intra-Industry Competition

Establishment of a "Working Party" to control the British cotton-textile industry probably means that again a branch of the world's textile industry is being used as a guinea pig—this time by socialists.

The new plan for the British cotton-textile industry involves control by a Working Party consisting of four representatives of labor, four of employers, and four of the public, with a chairman appointed by the government. Originally, it was feared that the socialists would nationalize the textile industry; the industry was warned to thrive, or else—! (TEXTILE WORLD, September, page 115.)

Nationalization was held as a threat if the industry did not respond to the government's goals for the industry. But it soon became clear that the government would not actually operate the textile mills. It could not afford to, it was rumored, because it could not pay the deficit foreseen! Now the plan evidently is to control but to let the industry pay the bill for experiments, social reform, even operation of plants in a manner contrary to the owners' notions. Evidently that bill will be big. How the industry will be able to pay it is not clear.

How an industry got itself into such a predicament as now envelops British textiles might serve as a lesson to American business men. In the first place, the British cotton-textile industry is far from blameless for its situation. For example, it tried to keep world textile dominance with a ratio of 473,500 non-automatic looms to 18,300 modern automatic looms. (The U. S. ratio is 22,222 non-automatic to 507,191 automatic.) Without high production per operator and low unit costs, how could it thrive?

For years, British textile executives knew of their difficult predicament. But what steps did they take? For one, they begged the government for assistance. The result was the Cotton Reorganization Act of 1939—an act designed to regulate conditions of entrance into the industry, its size, and minimum prices!

Evidently, some British textile men still believe that they can best export (British economy is based on export) by operating their mills somewhat as a combine. What has happened is that the reduction of competition among themselves has made them less competitive in their world position.

Another step the British took in an attempt to improve their operations was to establish an experimental mill which somehow is reminiscent of Germany's Denkendorf model plant. Its main purpose, however, was to set up new machinery with which to establish new work loads acceptable to labor unions. Individual mills had been unsuccessful, as is well known, in increasing the number of machines an operator attended; and thus, there was little incentive to replace old machines with automatic machines.

Contrast the modernization and expansion ideas of the British textile industry with what U. S. textile mills are planning and doing, as pointed out in the story beginning on page 149 of this issue. The enormous plans of the U. S. industry are not the result of a model mill run by or for any group, nor are they plans seriously impaired by narrow-minded union restrictions. They demonstrate what can be done when individuals supplement each other's efforts through competition.

No U. S. textile manufacturer is obliged to ask whether the industry "needs" additional or better capacity—nor, usually, whether operators will accept larger machine assignments when improved equipment is installed. He goes ahead on his own judgment; and the record of competitive enterprise has shown that it is less costly, as a whole, for more efficient mills to put inefficient ones out of business (or force them to modernize) than it is for an industry or a governmental agency to try to hold on to the ragged fringe of the industry.

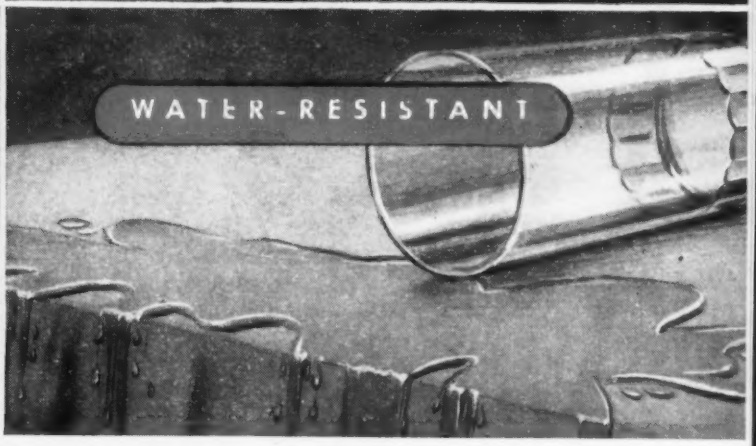
Consider the plans for industrial progress now being developed all over the United States under our free-enterprise system as exemplified by the textile cases reported in this issue. Carrying out these plans should continue to give us a textile industry which is the world's most efficient as measured by productivity achieved per unit of human effort expended. We should not lose sight of the elements which have made our industry great, nor hold lightly the fact that it remains a stronghold of private enterprise in a world which is experimenting, by force or by choice, with various forms of industrial collectivism.

C. H. Bendigo

VITA-CLOR FINISHES

REG. U.S. PAT. OFF.

For textile products



Vita-Clor Finishes will make natural and synthetic fibres, or their mixtures

Resistant to { **Flame** **Weather** / **Mildew** **Water** }

Finishes for textiles or fabrics can be coated, impregnated and treated by your standard finishing-room methods. Vita-Clor Finishes are supplied clear or in colors.

Write for Your Copy of the VITA-VAR Product Finishes Folder

ARMY E NAVY

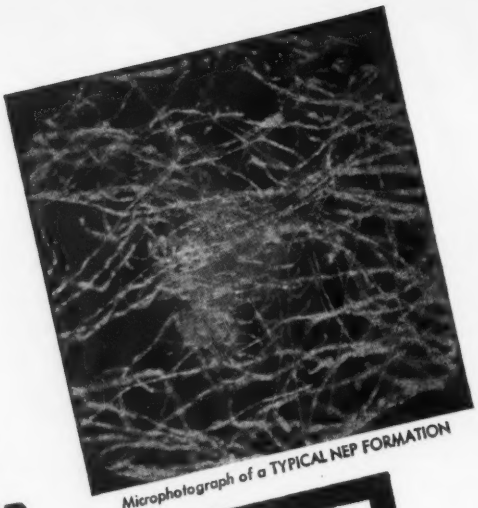
VITA VAR CORPORATION
PAINT ENGINEERS SINCE 1888

VITA-VAR CORPORATION

PAINT ENGINEERS SINCE 1888 NEWARK, NEW JERSEY

NEP COUNT REDUCED 50%*

ON CARDS EQUIPPED WITH THE SACO-LOWELL Continuous STRIPPER



Microphotograph of a TYPICAL NEP FORMATION

HERE ARE THE FACTS OF A RECENT TEST

Before making the test, the cards were completely stripped. They were then started and run for 2½ hours, at which time 144 sq. inches of web were counted for neps. The nep count is given in the following table.

CARDS OPERATING	WITH Continuous STRIPPER		WITHOUT STRIPPER	
	After 5 minutes	After 2½ hours	After 5 minutes	After 2½ hours
A	71	58	82	117
B	74	58	76	135
C	74	39	86	105
D	70	75	86	103

*This test was conducted by the research staff of a large New England mill in cooperation with the card erectors of the Saco-Lowell Shops.

ADDITIONAL FACTS ABOUT THE TEST

Cards were reset before test was started so that settings of various parts were the same.

• • •

At start of the test cylinders and doffer wires were examined and found to be in very good condition.

• • •

At finish of the test, wire was again checked on each card and cards equipped with Continuous *Stripper were found to be in better condition than the wire on cards without the stripper.*

• •

During the test every can of sliver delivered from the cards had four yards of sliver taken from it and weighed.

• • •

During the test ten flat strips were weighed from each card and it was found that the flat strips on Cards with the Continuous *Stripper were much lighter.*

The origin of neps is somewhat obscure. Some are caused by diseased fibers, others by poor ginning, and still others by conditions prevailing in the mill. Whatever the cause, neps are a serious detriment to the production of quality yarn and fine cloth. While neps cannot always be entirely eliminated, tests have shown that with efficient operating equipment they can be reduced to a minimum.

The card room is the one place where neps which have escaped the cleaning action of the Opening, Picking, and Blending Reserve can be further attacked. The test reported above is proof of this. Study it carefully, notice that the nep count was reduced considerably.

If you are now using conventional stripping methods, our engineers will be glad to make a study of your local conditions and prepare an estimate showing you just what the Saco-Lowell Continuous Card Stripper can do for your card room.

Saco-Lowell Shops

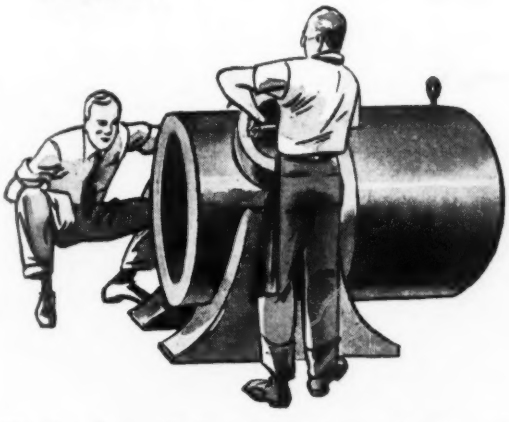
BOSTON · MASSACHUSETTS Charlotte · Greenville · Atlanta

"So They Dumped an 1800 lb. Compressor in Our Lap!"

"It's Yours, Old Man," said the Sullivan Machinery Co. to the Allis-Chalmers engineer. "All that compressor needs to make it happy is a motor. But it's got to have the right qualifications before it can keep company with my machine!"

"I Don't Want This! Looks like the motors in San Francisco and the compressor's in New York. What I want is a motor that'll hug that compressor so close you can't tell where one starts and the other ends. It's got to . . ."

Well, That Compressor Manufacturer made our heads whirl. Lighter . . . more compact . . . simple design . . . rugged construction . . . trouble-free . . . these were only part of what he wanted. So we measured and figured and made designs . . .



We Cut Overall Size by pressing the rotor on the compressor shaft. That eliminated motor bearings and with it lubrication worries and any chance of misalignment. A new type of housing reduced weight, helped pack more hp into less space.

Result: A completely integrated package unit with a mighty saving in space. To install it you only had to connect the leads and it began to purr. Speaking of purring — you should have heard Mr. Compressor Builder when he saw the finished product.

A 1926

There's a Moral: Every time Allis-Chalmers engineering solves *special* motor problems, we discover new ways to build better standard motors for you. Watch for these new and better motors from A-C.

Wait 'til you see the NEW ALLIS-CHALMERS MOTORS!

HEAR THE BOSTON SYMPHONY: *Every Saturday Evening, American Broadcasting Co.*

Scott & Williams, Inc.

Announces the

PRIZE WINNERS

IN THE "STOCKING OF THE FUTURE"* CONTEST

1st PRIZE — $1000 WAR BOND

SIGMUND IWANSKI
2820 LaGrange, Toledo 8, Ohio

2nd PRIZE — $500 WAR BOND

HELEN M. STIKEMAN
29 Taber Ave., Providence 6, R. I.

3rd PRIZE — $300 IN WAR BONDS

BARBARA M. NEWTON
192 Cline Crescent, Hamilton, Ont., Canada

$100 WAR BOND

MRS. EULA MAE CADWELL
Bartow, Florida

MRS. VIOLET R. COADY
Grand Rapids, Michigan

MABEL COCHRAN
Burlington, Kansas

MYRTLE DANLEY
Belton, Texas

MARY T. FATH
Pittsburgh, Pennsylvania

MRS. BETH P. FESSEY
Murfreesboro, Tennessee

A. GINGRAS
New York, New York

MARY JOANIDES
Cleveland, Ohio

MAXINE LEWIS
Colorado Springs, Colorado

MARGARET MERRELL
St. Louis, Missouri

MRS. ESTHER JOAN NORMAN
Leavenworth, Kansas

MRS. W. T. WILCOX
Newburgh, New York

$50 WAR BOND

MRS. ELLA BANKARD
Detroit, Michigan

BEVERLY BEAUFORT
Baltimore, Maryland

MRS. A. E. BROCK
Judsonia, Arkansas

MRS. BEATRICE K. BURNS
Sea Gate Gardens, New York

MRS. JACQUES J. BURQUET
Carlisle, Pennsylvania

MABEL O. COAN
Baltimore, Maryland

FUNA G. DORMAN
Durham, North Carolina

MRS. GERTRUDE E. FOX
Bradenton, Florida

MRS. EVA Y. HOWARD
Bedford, Indiana

ALLENE F. KUHEL
Peoria, Illinois

CATHERINE F. LYDON
Brighton, Massachusetts

GEORGIA MC COY
Tulsa, Oklahoma

PETER F. MROK
Fall River, Massachusetts

JEN PENNINGTON
Louisville, Kentucky

MRS. W. F. ROBB
New Haven, Connecticut

MRS. GERTRUDE A. SCHLESINGER
Hollywood, California

CAROLYN SCHWAB
Louisville, Kentucky

CHARLES JAMES THOMPSON
Manchester, New Hampshire

SARAH MIE. WARTCKI
Cincinnati, Ohio

MRS. LUCILLE ZAHNER
Kansas City, Missouri

$25 WAR BOND

ANABEL BURKHARDT
Holyoke, Massachusetts

MRS. BARBARA BYZON
Lowber, Pennsylvania

MRS. H. O. CALDWELL
St. Joseph, Missouri

HERBERT DAWSON CHILDRESS
Lookout Mountain, Tennessee

MRS. NAIDA R. DICKSON
Ogden, Utah

HARRIET C. GREVE
Knoxville, Tennessee

MRS. ROBERTA M. GUY
Richmond, Virginia

MRS. M. J. HEALY
Oakdale, Louisiana

MRS. MARGARET M. HEALY
Colorado Springs, Colorado

CHARLES E. HOFFMASTER
Reading, Pennsylvania

MRS. N. M. JACOBS
Tacoma, Washington

MRS. P. B. J. JOHNSTON
North Hollywood, California

J. E. JONES
Grandview, Missouri

MRS. ALICE MAE KNEECE
Bartow, Florida

BERTHA LONG
Burlington, North Carolina

MRS. DORA MATTESON
East Greenwich, Rhode Island

PARM MAYER
Alma, Michigan

MRS. R. E. MELLEN
Minneapolis, Minnesota

MRS. DORA W. PEARSON
Wamego, Kansas

J. R. PLEASANTS
Durham, North Carolina

MRS. JAMES E. RICHARDSON
Zanesville, Ohio

MARY EVELYN ROGERS
Muskogee, Oklahoma

WERNER ROTHSCHILD
Woonsocket, Rhode Island

STANLEY RUBINSTEIN
Danbury, Connecticut

EMMA SCHUTTE
Silver City, New Mexico

MURRAY SCHWARTZ
Bronx, New York

V. GORDON SEARS
Montreal, Quebec, Canada

MRS. A. R. SERVICE
Rodessa, Louisiana

VICTORIA SIGNET
Detroit, Michigan

MARIE SNYDER
Kingston, Ohio

MRS. R. L. SPAIN
Tulsa, Oklahoma

MRS. EVELYN STRANGE
Grand Ledge, Michigan

MRS. HENRY L. THACKER
Waleska, Georgia

MRS. JESSIE TUCKER
Atlanta, Georgia

MRS. STELLA M. VAN HORN
Chesaning, Michigan

MRS. ELLA WALDON
Glendive, Montana

THOMAS S. WALLER
Cumberland, Maryland

MRS. LEILA S. WARD
Mt. Penn, Reading, Pennsylvania

IANTHA WATSON
Birmingham, Alabama

A. ELIZABETH WILSON
Nova Scotia, Canada

***The "Stocking of the Future" is the new type no-seam nylon stocking which will be produced exclusively by Scott & Williams machines**

HERE'S WHY THE "STOCKING OF THE FUTURE" WILL BE THE MOST PERFECT NYLON STOCKING EVER MADE...

The American woman will experience a thrill when she wears this brand new type of nylon stocking. It represents such a tremendous step forward in the art of hosiery manufacture that hosiery history is actually in the making.

The "Stocking of the Future," which will be available to the retail trade early next spring, features a patented heel construction which increases foot comfort and molds the stocking to fit the slenderest ankle without a shadow of a wrinkle. Ample proportioning at the top assures the wearer of a smooth-fitting stocking from top to toe.

The gossamer-like sheerness of the "Stocking of the Future," and absence of troublesome leg seams add glamour to even the most perfect leg...and these unbelievably delicate stockings retain their shapeliness through long wear and repeated washings.

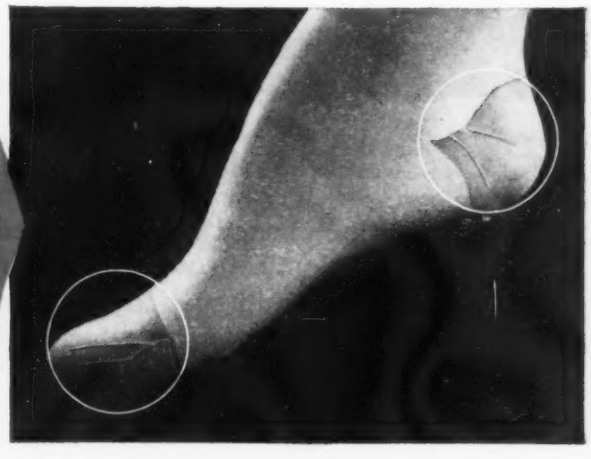
6 IMPORTANT CONSTRUCTION POINTS OF THE "STOCKING OF THE FUTURE"

1. Notice the added volume where needed, given by the gusset fabric knitted into each side of the toe section.
2. The right angles formed by the gusset wales (vertical stitches) and the wales of the toe fabric are the only method of giving the toe of the stocking ample fabric stretch in both length and width to assure cool comfort for active feet, even on hottest days.

These are patented features

3. Notice how the sturdy heel fabric, while entirely out of sight, extends almost to the top of the shoe and well under the ball of the heel, giving ample protection against shoe abrasion.
4. Direction of wales at the beginning and end of heel tends to prevent heel slippage.
5. Exclusive right-angled wales give real comfort because of ample two-way stretch.
6. This heel construction smooths away ankle wrinkles.

These exclusive heel features are covered by Patent



SCOTT & WILLIAMS, INC.

Empire State Building · New York 1, N. Y.

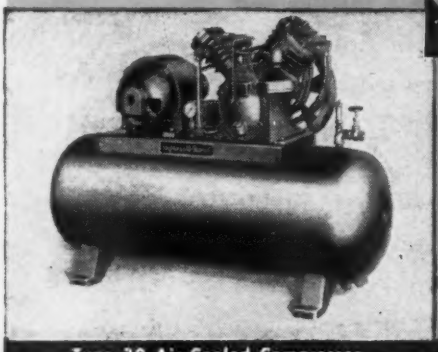
DIVISIONAL OFFICES: High Point, N. C. · Reading, Pa. · Chattanooga, Tenn.

Watch for the December issue of this publication for further news about the "Stocking of the Future"

GIVE YOUR TROUBLES THE AIR!

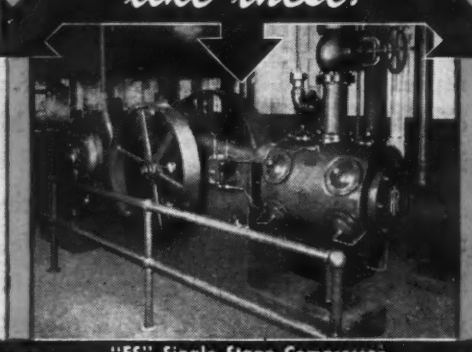
All you have to do is compress air in the type of machine which best suits your needs . . .

like these:



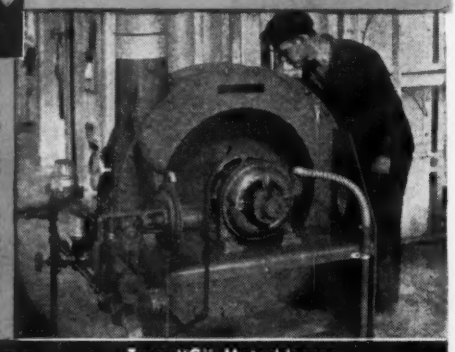
Type 30 Air-Cooled Compressor
½ hp to 10 hp

. . or . .



"ES" Single Stage Compressor
For continuous duty, 10 to 125 hp

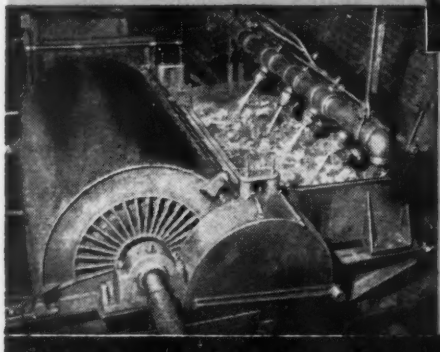
. . or . .



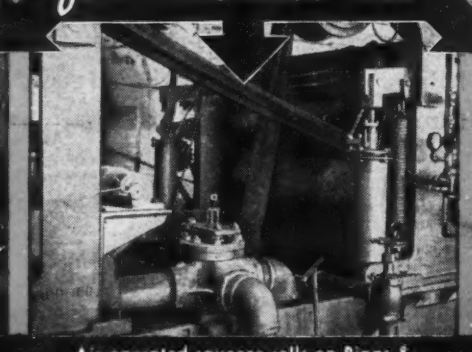
Type "G" Motorblower
For low pressures, 2 to 30 hp

Then pipe it to the spots where your troubles occur, . . .

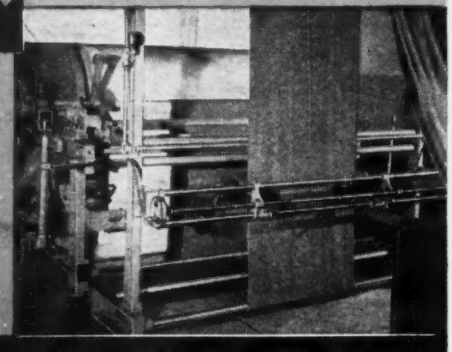
for instance the:



Oil atomizers on woolen mixing picker



Air-operated squeeze rolls on Riggs & Lombard continuous washer



Air-operated guiders on semi-decator

***Result:* Increased production, uniform quality, less handling, less seconds.**

Compressed air has proved itself to be such an efficient, flexible, and economical source of power that its uses have increased from the original humidification and cleaning applications of 50 years ago to a long list of services of which the following are but a few:

DECKERS . . . TEMPERATURE CONTROL . . . GUIDERS . . . SQUEEZE ROLLS . . . ATOMIZERS . . . DRYERS . . . CALENDERS . . . CONVEYORS . . . HOISTS . . . PRESSES . . . CARD STRIPPERS . . . VACUUM CLEANERS . . . AIR TOOLS . . DRY CLEANERS . . . YARN CONDITIONERS.

Ingersoll-Rand Company pioneered in the manufacture of air compressors and today makes just the compressor you need. (Over 1000 sizes and types.) Consult an I-R Engineer. He knows your problems and is always ready to discuss them with you.

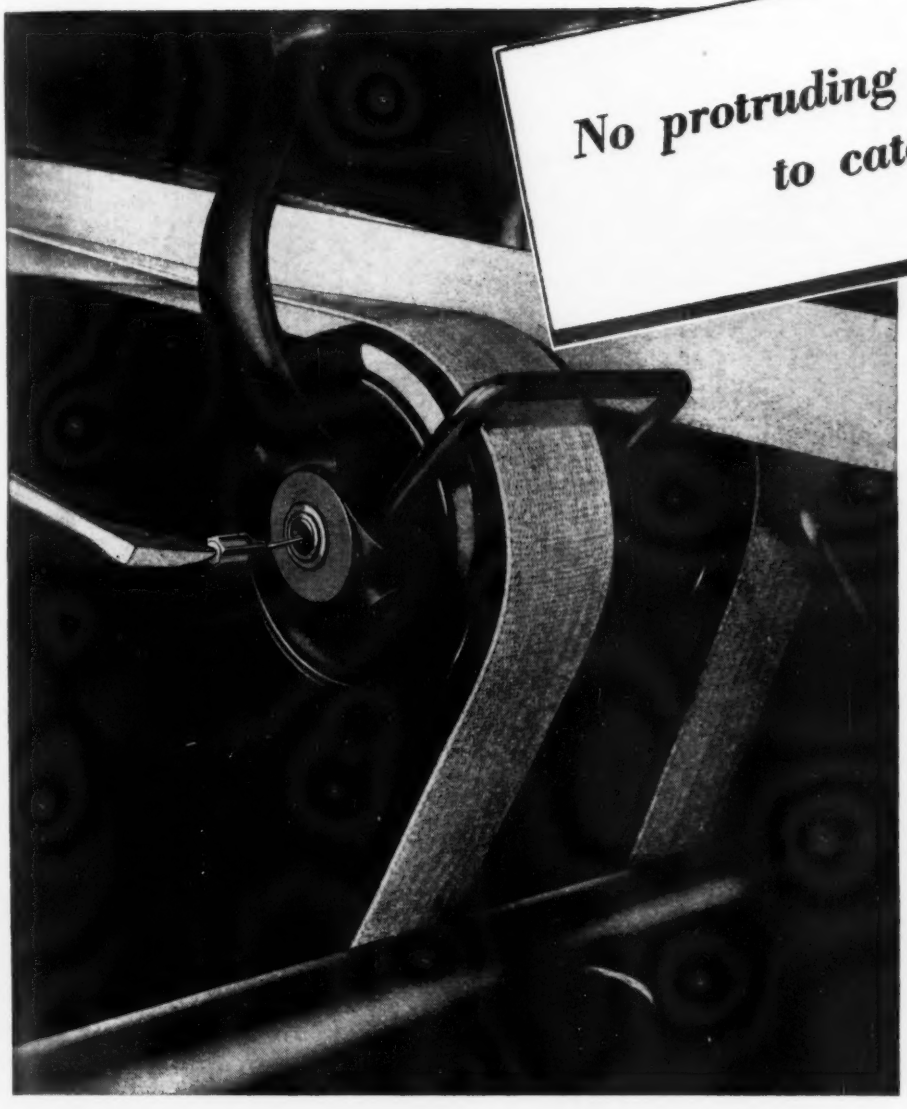
Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y.

I-792

COMPRESSORS · CONDENSERS · TURBO BLOWERS · CENTRIFUGAL PUMPS · ROCK DRILLS · AIR TOOLS · OIL AND GAS ENGINES

No protruding grease-fittings to catch lint

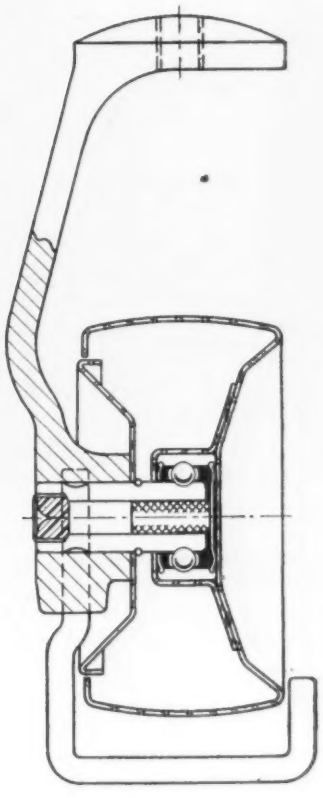


● This ball bearing pulley runs with less power, has easily accessible non-drip oiler. Relubrication needed only infrequently, is done quickly by injection needle.

These exceptional features are made possible by the New Departure self-sealed Ball Bearing illustrated at right—and a rigid, light and inertia-free pulley construction, which, incidentally, has a rugged guard to prevent tape from leaving pulley. Seven thousand of these pulleys have operated with perfect satisfaction for more than 32,500 hours.

The installation is in a Saco-Lowell glass twister frame in the plant of the Owens Corning Fiberglas Corporation, Ashton, R. I., and is reproduced by permission of both companies.

3400



Note how bearing inner race forms a hollow shaft fitted with a self-closing oil reservoir and a felt wick which filters and meters the oil before use for long service without attention.

NEW DEPARTURE

BALL BEARINGS

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONN. • Branches in DETROIT • CHICAGO • LOS ANGELES and other principal cities

... that's *Tufferized* Card Clothing

Just as the barber's experienced touch assures a clean and sharp job on a wiry beard, our exclusive Tufferizing Process is your guarantee of finest steel wires cut even in length and free from wire burrs . . . square-crowned wires that are accurately formed and accurately placed in the famous Tuffer foundation!

Tuffer Card Clothing means easier stripping, less grinding, longer life and greater production!

Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards—Napper Clothing, Brush Clothing, Strickles, Emery Fillets Top Flats Recovered and extra sets loaned at all plants—Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant—Midgley Patented Hand Stripping Cards, Howard's Special Hand Stripping Cards and Inserted-Eye and Regular Wire Heddles.

TUFFER CARD CLOTHING

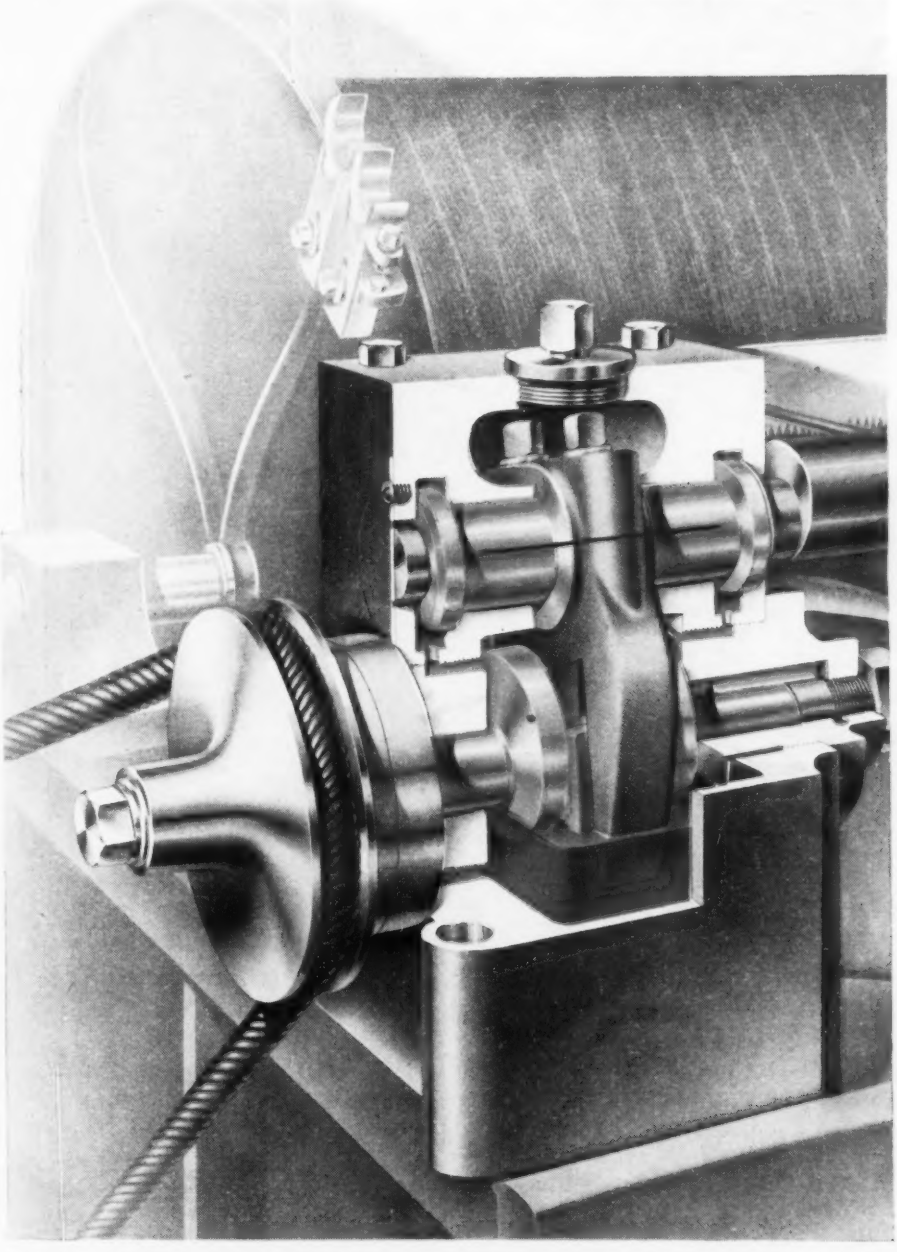
HOWARD BROS. MFG. CO.

WORCESTER, MASSACHUSETTS

Southern Plants: Atlanta, Ga., Gastonia, N. C. **Branch Offices:** Philadelphia, Austin **Canadian Agents:** Colwool Accessories, Ltd., Toronto 2

STOP COMB-BOX TROUBLE

with Gargoyle Vactra Oil



THERE'S nothing more important to successful carding than efficient operation of your comb boxes. With doffer combs meshing from 1200 to 1400 strokes per minute, comb boxes can be the source of continuous trouble. Or, they can operate for long periods with minimum heating, wear and leakage.

Much depends on your selection of the right oil. For here, you need an oil that not only resists rupture under continuous pounding, but also one that does not thicken or cause deposits that can clog small oil passageways.

You can depend on Gargoyle Vactra Oil to do both these jobs—and do them well. Specially developed for this kind of work, this famous Socony-Vacuum Oil forms strong, persistent films that resist metal-to-metal contact and minimize heating, wear and leakage. At the same time, this oil stands up in long service and assures freedom from clogged oil passageways.

Put Gargoyle Vactra Oil in your comb boxes now and make sure that it's always kept at the correct level for trouble-free operation.

SOCONY-VACUUM OIL CO., INC., Standard Oil of N.Y. Div. · White Star Div. · Lubrite Div. · Chicago Div. · White Eagle Div. · Wadhams Div. · Magnolia Petroleum Company · General Petroleum Corporation of California.

SOCONY-VACUUM'S 5 Steps to Lower Production Costs:

1. Lubrication Study of Your Entire Plant
2. Lubrication Schedules and Controls
3. Lubricant Storage and Handling System
4. Skilled Engineering Counsel
5. Progress Reports of Benefits Secured

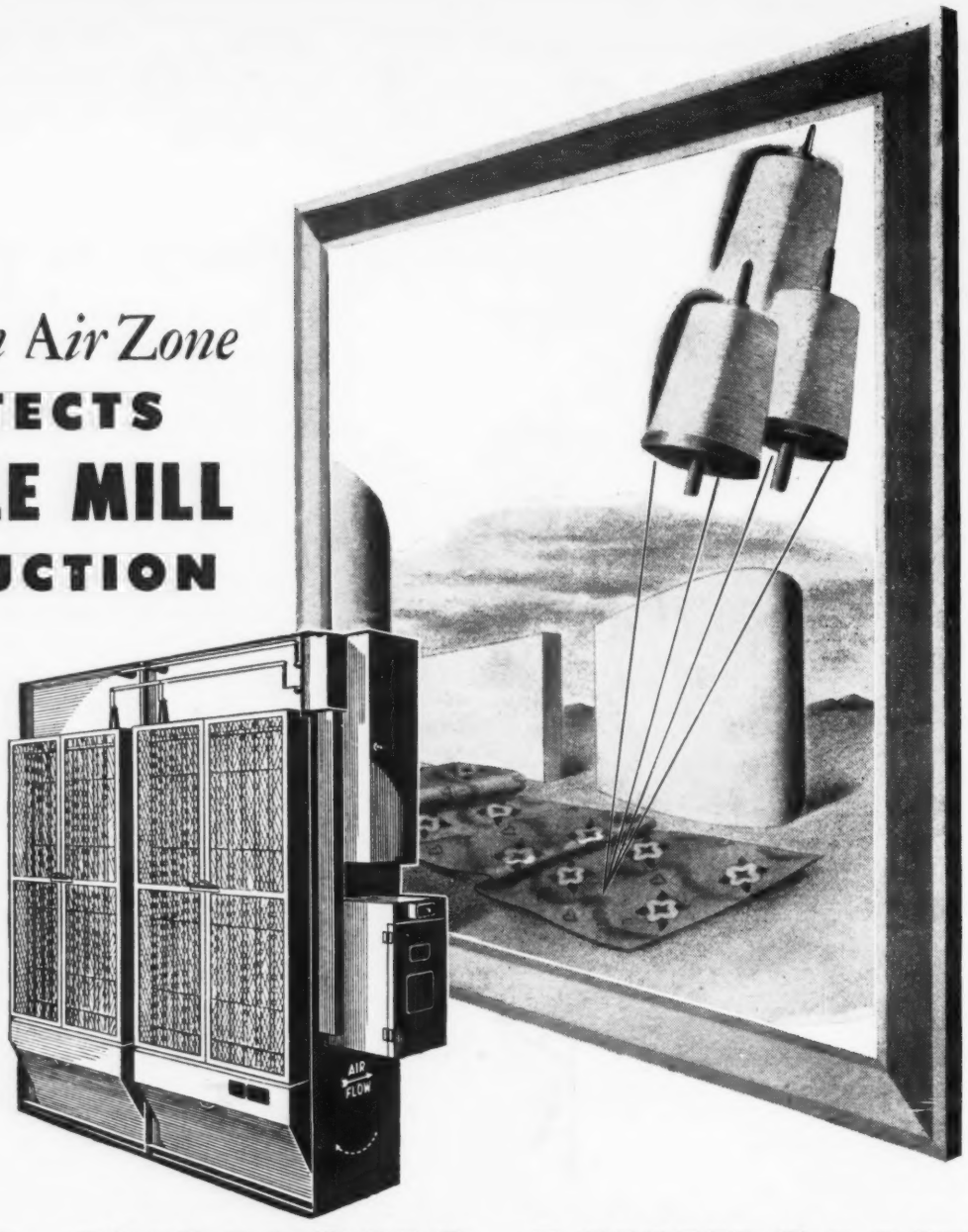
GARGOYLE Lubricants

TUNE IN "INFORMATION PLEASE"—MONDAY EVENINGS, 9:30 E.S.T.—NBC

The Clean Air Zone

PROTECTS

TEXTILE MILL PRODUCTION



SAVING MILLIONS ANNUALLY IN SPOILAGE AND REJECTS

Super clean air — free from dust, soot and smoke particles — has been a recognized necessity for textile mills for a number of years, but until the advent of the Electronic air filter the problem of keeping production absolutely clean remained unsolved. This need is met in a most efficient, practical and economical way with AAF Electro-Matic Electronic air filters. The Electro-Matic removes the largest to smallest soot particles which can sabotage production. Many leaders in the industry are installing this equipment. Write for Bulletin No. 250-D.

AMERICAN AIR FILTER CO., INC., 304 Central Avenue, Louisville 8, Kentucky

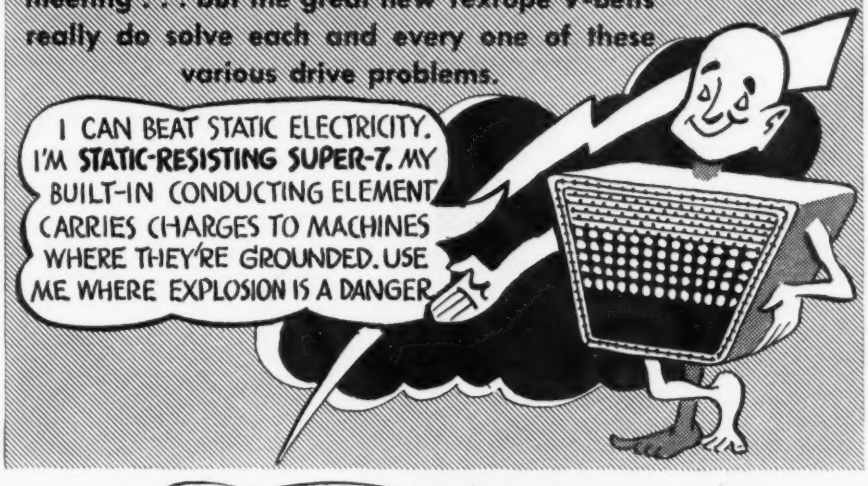
In Canada: Darling Bros., Ltd., Montreal, P. Q.

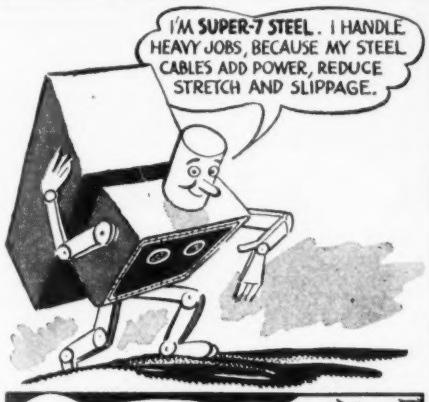
Electro-MATIC

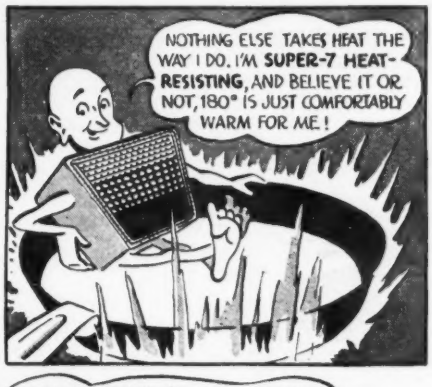
THE AAF ELECTRONIC AIR FILTER

TALL TALES ...but TRUE!

Their exploits may sound like a "Liars Club" meeting . . . but the great new Texrope V-Belts really do solve each and every one of these various drive problems.


I CAN BEAT STATIC ELECTRICITY. I'M STATIC-RESISTING SUPER-7. MY BUILT-IN CONDUCTING ELEMENT CARRIES CHARGES TO MACHINES WHERE THEY'RE GROUNDED. USE ME WHERE EXPLOSION IS A DANGER.





Texrope V-belts are available nation-wide through Allis-Chalmers Dealers and Sales Offices. It pays to make Allis-Chalmers your V-belt drive headquarters.

ALLIS-CHALMERS

Texrope Super-7 V-Belts result from the cooperative research of two great companies—Allis-Chalmers and B. F. Goodrich—and are sold exclusively by A-C.

A 1960

BULLETIN!

SPEED RECONVERSION WITH HELP OF NEW FREE A-C KIT!

Guide to "How to Take Reconversion Inventory" of Drives, Motors, Pumps

Help in the big job of reconverting for peacetime production is now offered to plants everywhere by Allis-Chalmers Mfg. Co., its district offices and distributors. To all who request it, we're sending the new "Reconversion Inventory Kit", planned to speed the task of determining the condition of your existing equipment — V-belt drives, motors, and centrifugal pumps — which will be used in reconverted production.

SUGGESTS PROCEDURE, STATES STANDARDS

Used by foremen, maintenance men, and engineers, the Kit is a real time-saver . . . leads efficiently to probable trouble spots, helps clear them up. Gives bearing tolerances, resistance formulae, etc., in compact, easily-used form. Check List appraisal charts help determine present and future condition of units inventoried.

HOW TO GET YOUR KIT

For your free Reconversion Inventory Kit, call your nearest Allis-Chalmers distributor or district office, or write Dept. 82, ALLIS-CHALMERS MFG. CO., Milwaukee 1, Wis.

ALLIS-CHALMERS MFG. CO.
Dept. 82, Milwaukee 1, Wis.

Please send Reconversion Inventory Kit free of charge to:

Company.....

Address.....

.....

Attn. of Mr.....

WHY IS compressor compactness A VIRTUE ?

Write for YOUR COPY of this Free Book

Right now is the time to start planning the air conditioning installation you intend to buy. It should be planned in complete detail *now* to avoid lost time *later!* Westinghouse has published a book to help make your planning job easier. Ask for your free copy of "How to Plan Correct Air Conditioning." 'Phone any Westinghouse office or write to Westinghouse Electric Corp., 150 Pacific Ave., Jersey City 4, N. J.

When you buy an air conditioning system, look carefully at the compressor . . . the "heat pump" that makes it work. You want a compressor of compact design. One that is easy to handle and install, one that saves valuable floor space. If it has those important elements of design it will require no special foundations and thus provide lower installation costs. The service-proved Westinghouse Hermetically-Sealed Compressor is clean-cut and compact . . . designed for easy accessibility when repairs are needed, too. Famous for dependable performance, it is the result of more than 20 years of research and development. Its completely enclosed, hermetically-sealed operating mechanism means *sealed-in* power, *sealed-out* trouble.

Westinghouse presents John Charles Thomas—Sunday 2:30 p m., E.S.T., N.B.C.
Tune in Ted Malone—Monday through Friday, 11:45 a.m., E.S.T., A.B.C.

Westinghouse
PLANTS IN 25 CITIES OFFICES EVERYWHERE

CORRECT Air Conditioning

SANDOZ PRESENTS *The color achievement of the month*

Moods in Color By Goodall Fabrics, Inc.

From time immemorial, man has given expression to his moods by translating them into colors, gay or sombre, through the medium of hand-woven fabrics.

Famous weavers like Goodall are reproducing, for the decorator, the finest achievements of present-day handcrafters. For example: the artful machine translations shown above—a very heavy lustrous fabric called "Silk Tweed"; skillful blends of mohair, cotton and rayon—are based upon the hand-woven creations of an American designer.

Goodall Fabrics, Inc.—like so many other famous names in textiles—includes Sandoz among its suppliers . . . knowing that for such successful dramatizations of mood—from subtly-muted pastels to vibrant, rich gold—it can rely upon Sandoz for colors that are true, easy to handle, and dependable.

Thinking ahead with textiles means—to Sandoz—the foresight and ingenuity to help the dyer meet many problems.

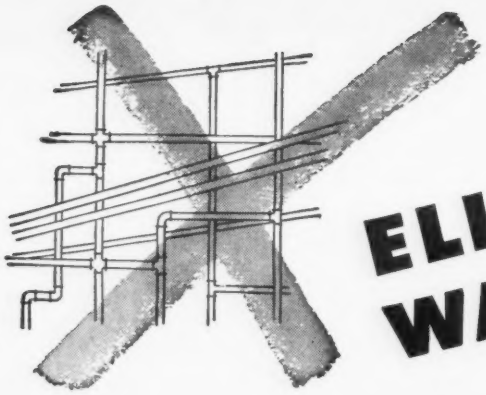
In Blues for wools, Sandoz has developed Alizarine Light Blue 4GL (Pat.), recognized as the fastest-to-light acid blue on the market; Brilliant Alizarine Milling Blue BL (Pat.) which combines fastness-to-fulling *and* light to an unusual degree.

For dyes . . . acid, chrome or direct . . . or auxiliary chemicals for both natural and synthetic fibres . . . remember Sandoz "color achievements." On special problems, get in touch with Sandoz application laboratories in: New York, Boston, Philadelphia, Los Angeles, Charlotte or Toronto. A wide range of stocks are maintained in those cities. Other branches are in Chicago, Paterson and Providence.

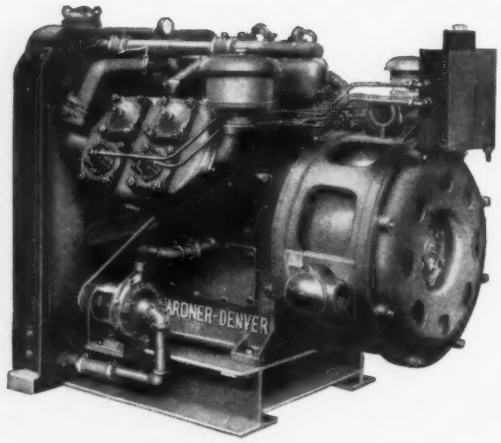
SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N.Y.

SANDOZ *thinks ahead with textiles*

S SANDOZ



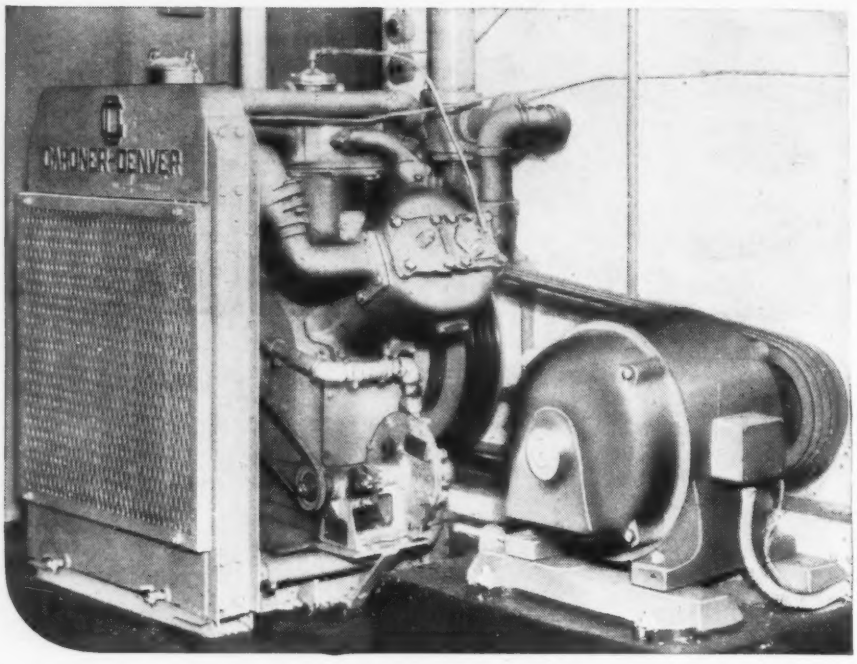
ELIMINATES WATER PIPING!



When space is a problem . . . when piping water is difficult . . . when locations are not readily accessible, then the Gardner-Denver "WB" Vertical Two-Stage Compressor fits the "air situation" to a "T".

A self-contained unit as far as cooling water is concerned, the "WB" requires no outside water piping. It provides the convenience of the air-cooled compressor, yet retains all the efficiency and economy of a water-cooled compressor.

Cylinders and heads are completely water jacketed. A combination radiator and intercooler serves to cool the air between stages and to cool the cylinder jacket water. A centrifugal pump circulates the water through the jackets.



OTHER "WB" FEATURES

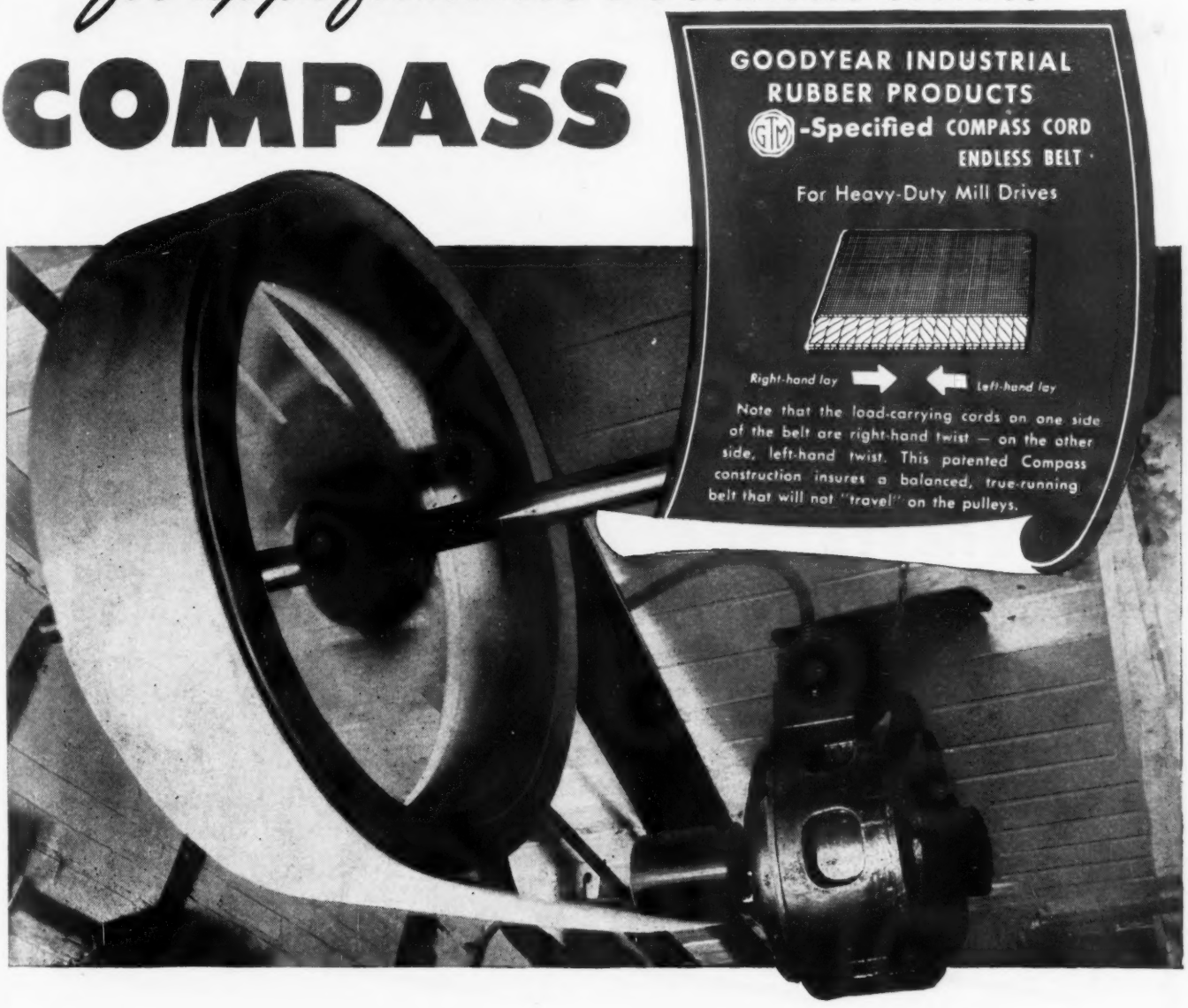
1. Combines exceptional compactness with efficiency equal to that of large Two-Stage Horizontal Compressors.
2. Drop-forged crankshafts mounted on Timken roller main bearings assure compactness and rigidity.
3. Extra strength and long life assured by castings of GarDurloy—the special high-strength metal.
4. Capacities range from 42 to 445 cubic feet displacement per minute.
5. To assure maximum life for hose and tools "Clean-Air" after-cooler will remove moisture and further reduce air temperature. Available as additional equipment.

For complete information on the "WB", send for descriptive bulletin. Gardner-Denver Company, Quincy, Illinois. Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Hazleton, Pa.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.

GARDNER-DENVER *Since 1859*

for top performance on critical drives

COMPASS


GOODYEAR INDUSTRIAL RUBBER PRODUCTS
GTM -Specified COMPASS CORD ENDLESS BELT
For Heavy-Duty Mill Drives
Right-hand lay
Left-hand lay
Note that the load-carrying cords on one side of the belt are right-hand twist — on the other side, left-hand twist. This patented Compass construction insures a balanced, true-running belt that will not "travel" on the pulleys.

WHEN you're after trouble-free, constant-speed, no-slip performance on such critical heavy-duty drives as slubbers, spoolers and traverse speeders — you'll find your answer in Goodyear **Compass** Cord Belts.

Why? Because **Compass** is virtually stretch-free — has far less than any other cord or fabric-bodied belt being built today. Because with **Compass** the load is carried by a layer of heavy-duty rope cords spiraled continuously so that there is no splice. Because this patented endless construction gives the belt so much greater strength, **Compass** Belts are approximately 25% thinner than other belts of equal power rating — assuring far longer flex life.

Wherever **Compass** is on the job — in large mills or small — it often averages from two to four or more times the service life of other belts. If you want consistently trouble-free service on all your heaviest-duty drives — want to keep maintenance costs at the minimum — consult the G.T.M. — Goodyear Technical Man — or write Goodyear, Akron 16, Ohio or Los Angeles 54, California.

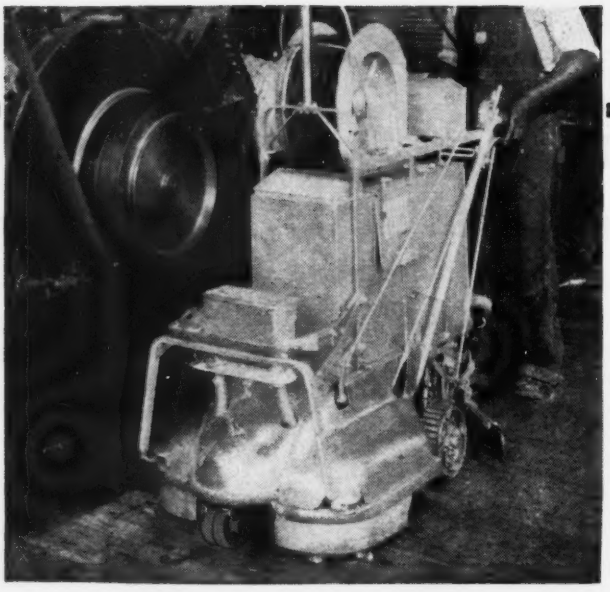
Compass - T.M. The Goodyear Tire & Rubber Company

FOR HOSE, BELTING, MOLDED GOODS, PACKING

built to the world's highest quality standard, phone your nearest Goodyear Industrial Rubber Products Distributor.

GOODYEAR

THE GREATEST NAME IN RUBBER



To Cut Operating Time of Your Scrubber

Choose

Cleansers Specially Compounded *for* Machine-Scrubbing

Emulsifies grimy oil and grease on mill and factory floors.

For heavy duty scrubbing of hard surface floors. Greaseless.

Used wherever a good *soap* powder is needed.

Endorsed by Rubber Flooring Manufacturers Association.

For conditions requiring a mild abrasive cleanser.

An oil emulsifier and an excellent water softener.

All *Finnell* Cleaning Powders are compounded to give cleaning action compatible with the speed of machine-scrubbing. They act *instantaneously* on dirt, oil, and grease, so that your scrubber can remove the accumulation in minimum operating time. All *Finnell* Powders are compounded in *Finnell's own powder mill,* and containers range from 5-lb. bags to 300-lb. barrels. For consultation or literature, phone or write nearest *Finnell* branch or Finnell System, Inc., 1911 East Street, Elkhart, Indiana. Canadian Office: Ottawa, Ontario.

FINNELL SYSTEM, INC.

Pioneers and Specialists in

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

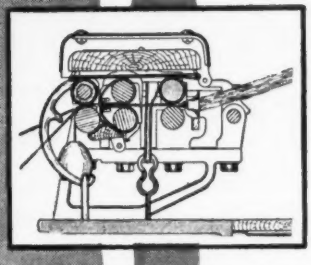
BRANCHES IN ALL PRINCIPAL CITIES

WHITIN ROVING FRAMES

3 PROVEN SYSTEMS for Better Roving . . .

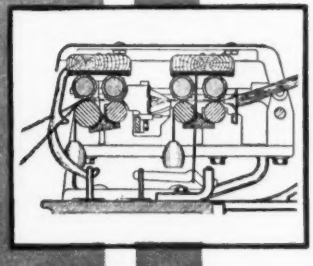
Typical mill installation of Super-Draft Roving Frames

WHITIN'S leadership in building Roving Frames is not an accident. Leading mills, everywhere, have been quick to realize the benefits of their correct design and high quality workmanship. Their adaptability to handling a wide range of fibers is described below.



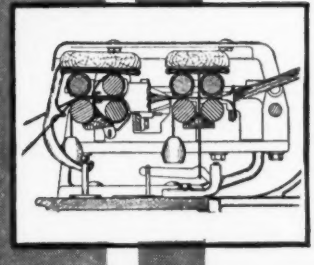
1 LONG DRAFT

A three roll system, with cradles and bands, designed for drafts 6 to 10 on carded work, up to 12 on combed work. Capable of eliminating either Slubbers or one Intermediate process, it is ideal where two process Roving is desirable.



2 INTER-DRAFT

A four roll system, without cradles or bands, designed to run drafts 10 to 18. Between drafting zones full fiber control is maintained by means of a special Quarter Turn Guide. Produces hank roving for finisher frames for making 5.00 hank roving or finer.



3 SUPER-DRAFT

This is a combination four roll system employing cradles and bands and also the special Quarter Turn Guide. Designed for drafts of 18 and over. It is especially effective in mixed fibers of different types and lengths.

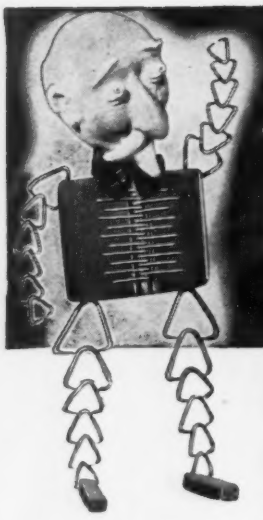
Any of these systems can be applied to present standard draft frames.

Whitin

MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. ATLANTA, GA.



SAVE 30% ON YOUR BELT LACING COSTS

The Timken Roller Bearing Co. of Canton, Ohio, has effected a saving of about 30% in consumption of belt hooks by using Clipper Belt Hooks, Clipper Lubrihide Pins and Clipper Speed Lacers.

You, too, can make worth-while savings by using ALL THREE Clipper products.

Remember, only Clipper Belt Hooks are packed with the long wearing **Lubrihide Pins.**

Clipper No. 9 Portable laces belts up to 6 inches wide in one quick, easy operation.

The **Clipper No. 9 Portable Lacer** develops pressures up to 16 tons. With such pressure, hook legs can be embedded flush with the surface of any kind of belt and points clinched.

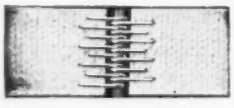
The scientific action of the jaws forms a perfect line of well rounded loops permitting the use of maximum diameter **Lubrihide Pin,** also providing equal distribution of pulling strain on every hook. A belt joint so made will outlast by two to three times one made with an old-style portable lacer.

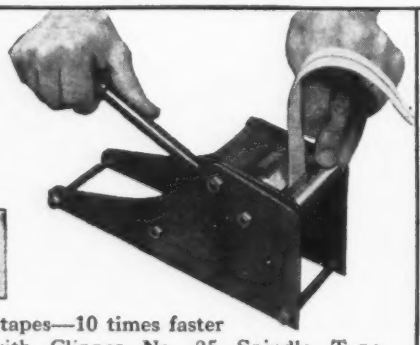
Scientific action of Jaws forms

a perfect loop for connecting pins.

We suggest that you check YOUR belt lacing situation. Send for folder describing the powerful Clipper No. 9 Portable Lacer and other Clipper products. Phone your Mill Supply Jobber for a demonstration!

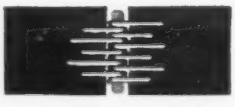
CLIPPER SPINDLE TAPE LACING EQUIPMENT

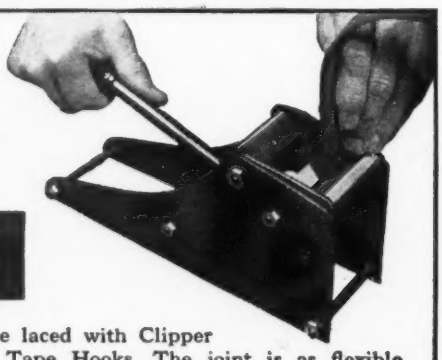




You can lace spindle tapes—10 times faster than stitching — with Clipper No. 25 Spindle Tape Hooks. The spinning frame is shut down only long enough to place the new tape on the pulleys and join the ends with the connecting pin — a short, easy operation. Tapes run true—last longer—run smoother—require less tension. VIBRATION is ELIMINATED.

CLIPPER CONDENSER TAPE LACING EQUIPMENT





Condenser tapes are laced with Clipper No. 25 Condenser Tape Hooks. The joint is as flexible as the tape itself. Clipper Laced Condenser Tapes can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving, and cut to length. WRITE FOR INFORMATION.

CLIPPER BELT LACER COMPANY GRAND RAPIDS, MICHIGAN, U. S. A.

Clipper

SPEED VICTORY by NOT INTERRUPTING PRODUCTION

BELT LACING EQUIPMENT

SPECIAL NOTE ON STAMINA...

This all-stainless amphibian, built by Fleetwings, Inc., has flown since 1936 in tropical areas, and has required very little maintenance and no special attention under the most difficult atmospheric and service conditions.

9 YEARS OF SALT SEAS AND TROPIC HUMIDITY HAVE NO EFFECT ON *Stainless Steel*

MERITS OF ALLEGHENY METAL

- ★Lustrous, handsome, sanitary, strong.
- ★Easy to form, weld, machine.
- ★Unaffected by any food or fruit acids, and most chemicals.
- ★No staining, no tarnishing, no off-tastes.
- ★Easy to clean, lowest maintenance and depreciation costs.

ALLEGHENY METAL *does* have superb strength and stamina, in the face of heat, wear and most corrosive influences. That 9-year-old all-stainless seaplane is merely an example under one set of service conditions. Thousands of other instances are ready to hand in homes, hotels, hospitals, restaurants and stores—in trains, trucks and buses—and in almost any dairy, food, chemical, paper, textile finishing or oil refining plant.

The point is that stainless steel is the world's most versatile, and probably longest-lasting, metal for commercial purposes. In Allegheny Metal, pioneer among stainless steels, these qualities are highly developed, uniform and dependable. Where can you use them to advantage? Let our engineers and technical staff work with you on your problems of today, and your plans for the future.

Allegheny Ludlum Steel Corporation
Brackenridge, Pa.

W&D . . . 9949

ALLEGHENY METAL
The Time-Tested Stainless Steel

ALSO HANDLED AND STOCKED BY ALL JOSEPH T. RYERSON & SON, INC. WAREHOUSES

Water-borne polyvinyl resins provide safer, simpler coating methods

GEON latex is a film-forming plastic material used to apply thin coatings to fabric, paper, fibre, thread, wire or any other material to which coatings can be applied by conventional methods. It is a true latex—a water dispersion containing a solid content of approximately 50% vinyl resin. Especially suitable for use in continuous processes, GEON latex is an easy-flowing, milk-like liquid of remarkably high stability. It is *not* rubber and contains *no* rubber.

When suitably formulated GEON latex can be used with standard coating equipment. Variations in viscosity can be obtained to make GEON latex suitable for use with such machines as knife spreaders, air knife coaters, roller applicators and continuous dip tanks.

In addition to the natural economy and simplicity of processing, GEON latex, being a water system, offers safety advantages not to be found in solvent systems. The dangers of toxicity and explosion are eliminated. Dangerous, expensive and cumbersome solvent recovery systems are unnecessary because no solvent is used.

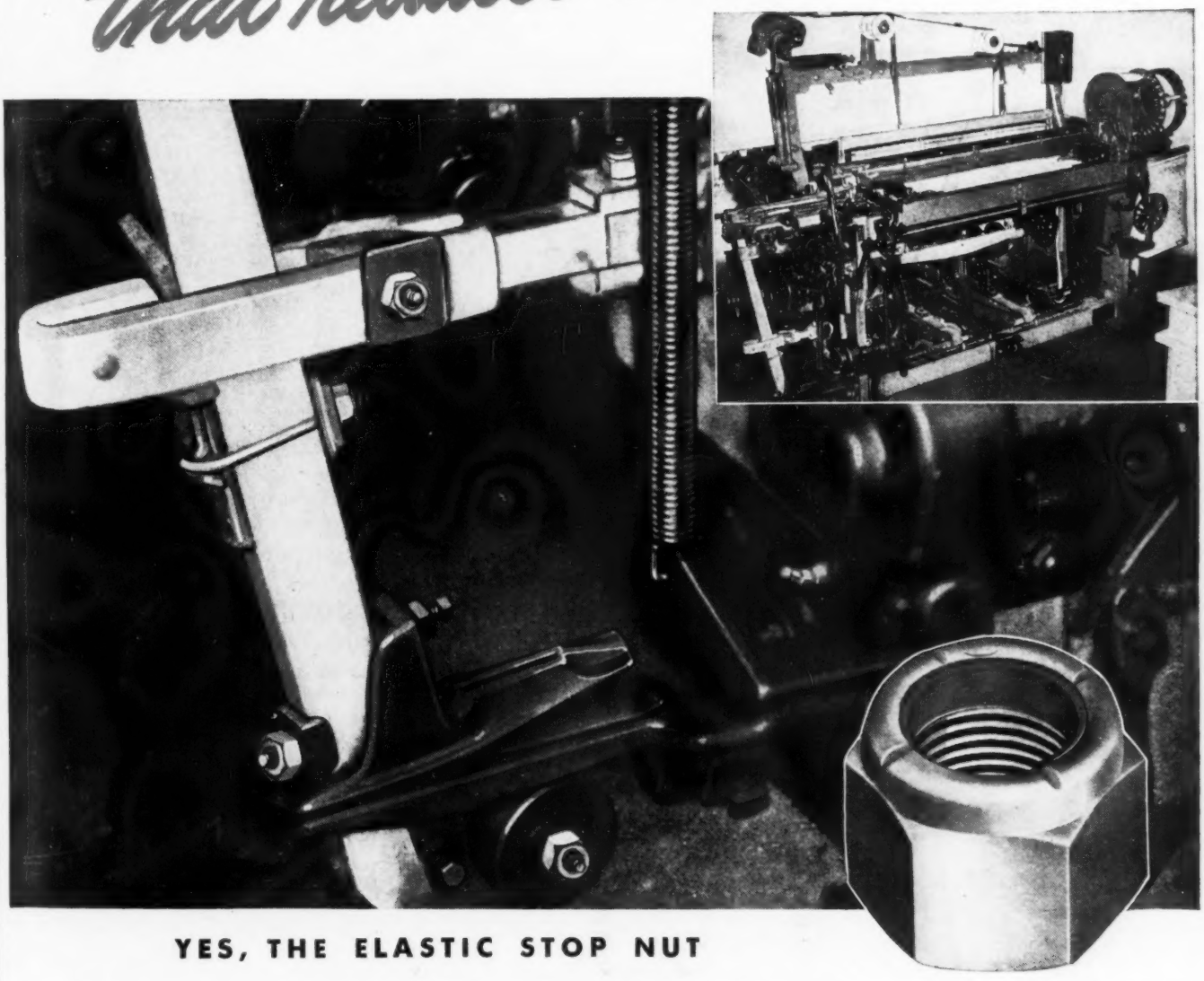
GEON latex, like all latices, has its limitations. It is not a "miracle material", that will do away with other coating methods. Yet already its use in military and related applications has proved that entire new fields in coatings will be opened up by this new material, the development of which was a true scientific achievement. For more information, write Department HH-6, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio.

Geon
Polyvinyl Materials

B. F. Goodrich Chemical Company

A DIVISION OF THE B. F. GOODRICH COMPANY

THE NUT *that reduces "Down Time"*



YES, THE ELASTIC STOP NUT

Textile men will recognize this picker stick as a potential trouble spot, a constant threat of interrupted production and high maintenance costs.

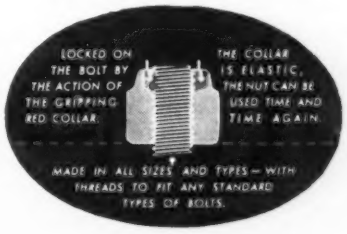
But loom fixers will recognize the red-collar remedy applied here — because there is growing familiarity with Elastic Self-Locking Stop Nuts, the famous red-collar nuts with the earned reputation for overcoming shock, impact and vibration.

Scores of Elastic Stop Nuts are used on a single loom, absorbing violent punishment in many places, as in the heel bolt and lug strap connections of the picker illustrated. In all its applications, the nut with the red collar proves it can hold fast and stay put.

The red collar of the Elastic Stop Nut eliminates the loosening effects of shock, impact and vibration. The collar is unthreaded and gauged slightly smaller than the bolt. It is made of tough, strong, durable material. The bolt threads force their way in, do not cut. The result is a two-sided friction grip on the bolt threads that grips firmly. And because the collar is resilient, the Elastic Stop Nut may be used over and over again.

Solve your loose nut problems by equipping your machines with Elastic Stop Nuts and keep them running.

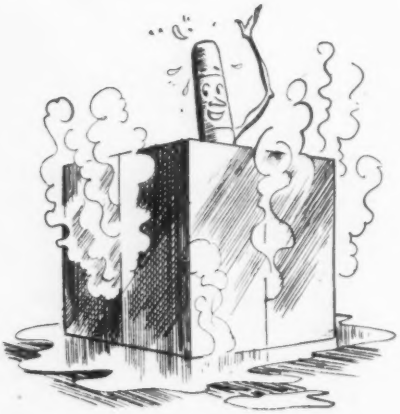
LOOK FOR THE RED COLLAR
THE SYMBOL OF SECURITY


LOCKED ON THE BOLT BY THE ACTION OF THE GRIPPING RED COLLAR.
THE COLLAR IS ELASTIC, THE NUT CAN BE USED TIME AND TIME AGAIN.
MADE IN ALL SIZES AND TYPES—WITH THREADS TO FIT ANY STANDARD TYPES OF BOLTS.

ESNA
TRADE MARK

ELASTIC STOP NUT CORPORATION OF AMERICA
Union, New Jersey

HOW TO PICK A BOBBIN
that can "sweat out" conditioning . . .



A "STEAM BATH" at temperatures up to 200° – necessary in some rayon processing – is a severe test for the toughest bobbins. To take this punishment, U S builds a super-resistant bobbin with special transparent enamel finish, and rust-resisting rings and brass bushings, that has long since proved it can "sweat it out" and stay in service.

FOR INTERMEDIATE CONDITIONING, where temperatures hit 150°, you'll find the U S 150 finish stands up to your best expectations. For Hygrolit conditioning of filling yarns, the USSR finish has exceptional durability. U S Bobbins also withstand the warping effect of conditioning heat and moisture because they are made from straight grain *split stock,* and scientifically seasoned.

THE HIGH POLISH necessary to prevent filling from catching while winding and unwinding is assured by the USSRC finish. It is especially suitable for fine numbers of soft twist yarns. For coarse numbers, the USSR finish offers the proper smoothness. In any style bobbin, U S can meet the highest standards of precision.

IF YOU'VE HAD TROUBLE getting the performance you want from bobbins, tell a U S representative your requirements, and he'll help you select U S equipment that will stand up longer and lower your costs, – whether you need Bobbins, Shuttles, Cones, Rolls, or Spools. You'll find him thoroughly equipped to advise you on any phase of processing any fiber.

US BOBBIN & SHUTTLE CO.

PROVIDENCE, R. I.
GREENVILLE, S. C.
CHICAGO AGENT:
Albert R. Breen,
80 E. Jackson Blvd.

LAWRENCE, MASS.

CANADIAN AGENT:
W. J. Westaway
Montreal, Que. — Hamilton, Ont.

JOHNSON CITY, TENN.
CHARLOTTE, N. C.
ALABAMA AGENT:
Young & Vann Supply Co.
Birmingham

THE SEAL OF QUALITY AND SERVICE SINCE 1857
US
ESTABLISHED 1857

How Up-to-Date are you on ALUMINUM?

This DRIP won't cause trouble...

thanks to **ALUMINUM** *

HIGH HUMIDITY is, of course, extremely important in many types of textile production.

Of necessity, this tends to create a high atmospheric corrosion factor, which not only reduces the life of equipment, but also causes condensation, which, in the presence of rust and stains, often renders worthless hundreds of yards of material.

Tough, corrosion-resisting Reynolds Aluminum sheet or plate, used in the construction of dryers, slashers, and other equipment, means longer life and even more important, insures colorless, stain-free condensation or drip.

Whatever your interest . . . whether you are manufacturer or user of textile equipment . . . Reynolds engineers will gladly cooperate with your engineers. Consider Aluminum . . . Consult Reynolds.

Buy Victory Bonds . . . and HOLD Them

* Reynolds Aluminum sheet, plate, extruded shapes, tubing and castings are obtainable in various alloys, tempers and sizes as required. They are also available in quantity, fabricated into parts ready for assembly. This saves time, eliminates scrap problem.

Note: Thicknesses less than .250" are designated *sheet;* thicknesses .250" and greater are termed *plate.*

Write today for Catalog together with detailed information. Address: Reynolds Metals Company, Aluminum Textile Sales Division, 2535 South Third Street, Louisville 1, Kentucky.

REYNOLDS METALS

REYNOLDS

***The Great New Source of* ALUMINUM**

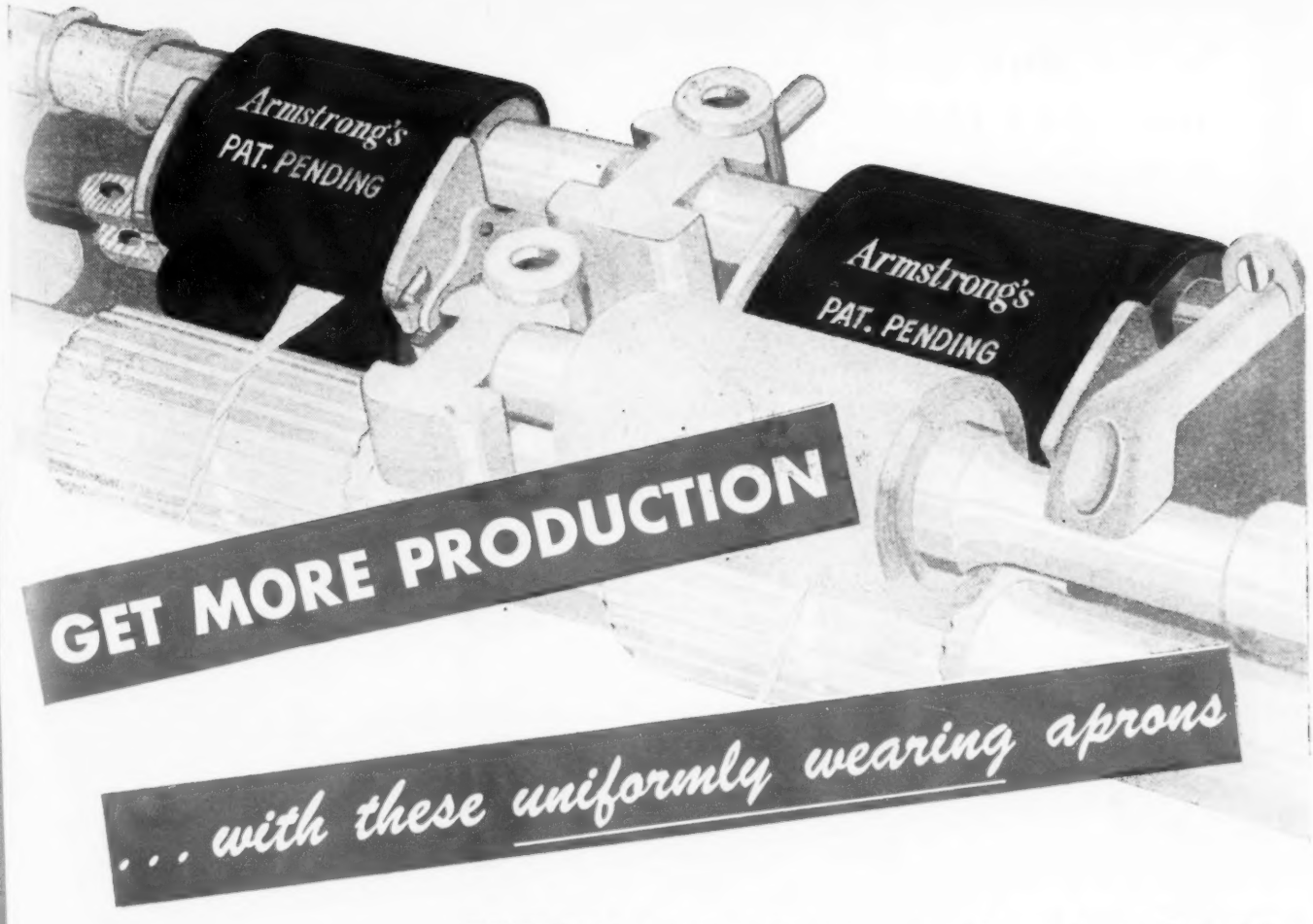
INGOT · SHEET · SHAPES · WIRE · ROD · BAR · TUBING · PARTS · FORGINGS · CASTINGS · FOIL · POWDER

*RAYON...WELL-SPRING OF RICHES

From the riches of rayon comes a wide range of benefits for all the people. Beautiful, useful fabrics for fashion and the home. Increasing uses in industry... secure jobs in even greater numbers... expanding opportunities for the employment of capital. With the added impetus given rayon by wartime ingenuity, its future looks vast and inviting.

Tu·bize rayon

TUBIZE RAYON CORPORATION · 2 PARK AVE., NEW YORK 16, N. Y.
Acetate and Viscose Rayon Yarns and Fabrics



GET MORE PRODUCTION

... with these uniformly wearing aprons

YOU don't have to worry about production losses caused by the premature wearing or scuffing of individual aprons when you use Armstrong's Accotex Long Draft Aprons.

Accotex Aprons give you uniformly good service for a uniformly long period of time because the tough synthetic rubber composition of Accotex is exactly alike in every apron. This composition is scientifically formulated and laboratory controlled, and that eliminates variations which cause uneven wearing in natural products.

Moreover, the special seamless construction of Accotex Aprons—with a sturdy cord interliner sandwiched between two thick layers of synthetic rubber—provides added assurance that they will not tear, break open, or stretch during operation.

In addition to these important features, Accotex Aprons offer the following operating advantages:

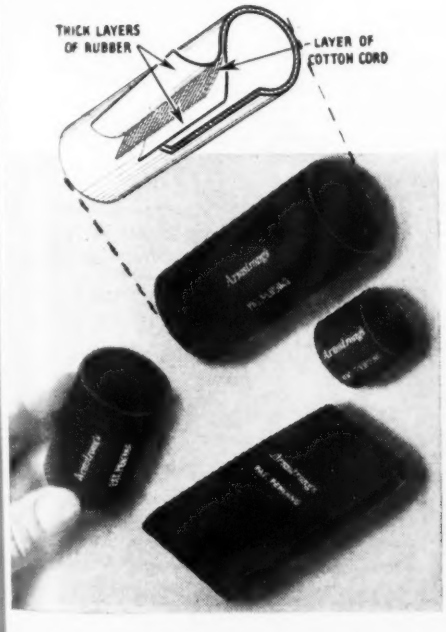
LONG LIFE: Accotex Aprons in continual service for more than three years show little sign of wear.

CLEAN-RUNNING WORK: Accotex Aprons do not crack or scuff. Thus they assure cleaner-running work.

REDUCED LAPPING: Accotex Aprons are not affected by changes in either temperature or humidity. They perform with a minimum of lapping.

GOOD FRICTION: The efficient "grip" of Accotex Aprons minimizes slippage.

Check these mill-proved advantages on your own frames. For complete information and free samples of Armstrong's Accotex Aprons, see your Armstrong representative. Or write Armstrong Cork Company, Textile Products Dept., 8311 Arch Street, Lancaster, Penna.



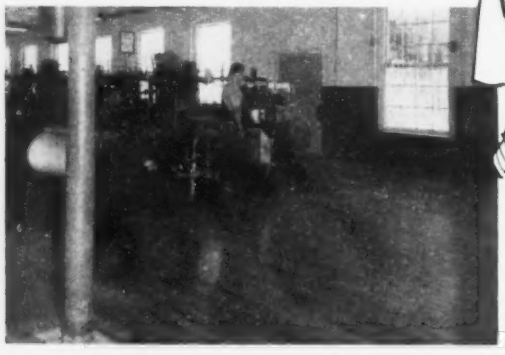
ARMSTRONG'S ACCOTEX APRONS

CORK COTS • ACCOTEX COTS

Is The Man With The "WET MOP" Losing Money For You?

Costly, outmoded wet mopping has no place in a modern textile mill. It is slow . . . wastes labor . . . makes floors dark and dingy and frays them thus hastening decay. And it slows up production, adds to spoilage losses and encourages accidents, too. *Don't waste money, time and manpower* by wet mopping!

REFLECT MORE LIGHT! A typical Tennant-maintained hard maple floor in a textile mill showing how rooms are brightened when this System is used. (Lares Silk Mills)



TYPICAL VIEW of weave-room floor of top-nailed hardwood, kept clean, smooth and bright with Tennant *dry*-cleaning. (Copeland Fabrics Corp.)

CLEAN, DRY, HARD FLOORS ARE IMPORTANT TO YOUR PRODUCTION

Speedy, low cost maintenance with the popular, "textile-proved" TENNANT SYSTEM *keeps* your floors in topnotch shape for speeded-up production. *It* assures *floors that actually add to your mills* profits!

Floor cleaning the TENNANT way takes minutes, not hours . . . doesn't interfere with mill operations, . . . reduces daily cleaning costs as much as 50%. Eliminating mopping, TENNANT-maintained floors stay like new: bright-surfaced, lustrously clean, non-slippery, hard and dry.

Floors like this give benefits shared by your entire plant—bright rooms, boosted morale, increased efficiency, greater safety. You'll notice the speed-up in production.

Here's what the TENNANT SYSTEM does:

RESTORES FLOOR SURFACES. Frayed, softened top wood fibers (caused by scrubbing) are rapidly removed in one operation with a Tennant Floor Machine. Leaves a smooth, hard, brilliant surface that's sound and vigorous, looks like new. Brightens dingy floors like magic, regardless of their age.

HARDENS FLOOR SURFACES. Application of a quick drying, vegetable oil seal effectively fills, binds and hardens wood fibers. Rapidly burnished by the Tennant Floor Machine, the seal becomes a part of the wood.

KEEPS FLOOR SMOOTH, CLEAN, BRIGHT One operation with the Tennant machine and traffic stain and dirt is burnished from the floor leaving it smooth and spotless. Keeps floors in perfect condition. Speedy one-man job; no sweep-up is needed. More efficient and up to *6 times faster than wet-mopping.*

FREE FROM OIL, DIRT, LINT, OLD FLOORS BECOME LIKE NEW!

Cleaned and sealed against oil and dirt penetration, splintering and even against wear of steel truck wheels, Tennant maintained floors stay like new for years.

Their bright, hard, non-slippery surfaces reflect "good housekeeping"— the kind that marks a modern, efficient mill.

MAINTENANCE COSTS LESS *with the Tennant System* ***THAN WITH ANY OTHER METHOD!***

CHECK THE TENNANT SYSTEM TODAY!

Write today for more information about the application of the Tennant System in textile mills. Let us show you how to obtain finer floors with less effort, time and expense.

The way to finer floors
TENNANT
Floor Maintenance System

G. H. TENNANT CO.
2586 No. 2nd St. • Minneapolis 11, Minn.

You'll be seeing much of the new Eastern Stainless blue and black trade mark — E S — reproduced above. Identifying the product of skilled craftsmen — all of whom are specialists in Stainless — it stands for Stainless Steels of superior quality.

Let this striking new emblem be a constant reminder that "Eastern has the answer when Stainless is the question." Eastern Stainless furnishes twelve standard and several special grades, all of highest quality, in an extensive range of sizes and finishes. And remember... the Eastern Stainless Technical Staff is ready always — to give you prompt, helpful service.

WRITE TODAY . . . FOR NEW 96 PAGE CATALOG!

It's hot off the presses... an office-handy encyclopedia giving authentic information on modern applications of Stainless Steels in many great industries including your own. Contains much technical data compiled by Eastern Stainless specialists. Be sure to get your free copy.

B-F1

EASTERN STAINLESS STEEL CORPORATION
Baltimore 3, Maryland **Dept. 52**

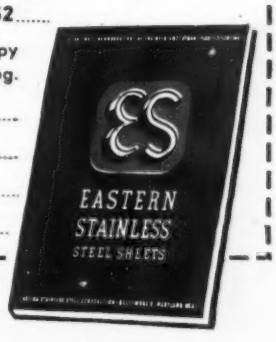
Gentlemen: Please send me a free copy of your valuable new 96 page catalog.

Firm Name.....

Address .....

City..... State.....

Your Name and Title .....



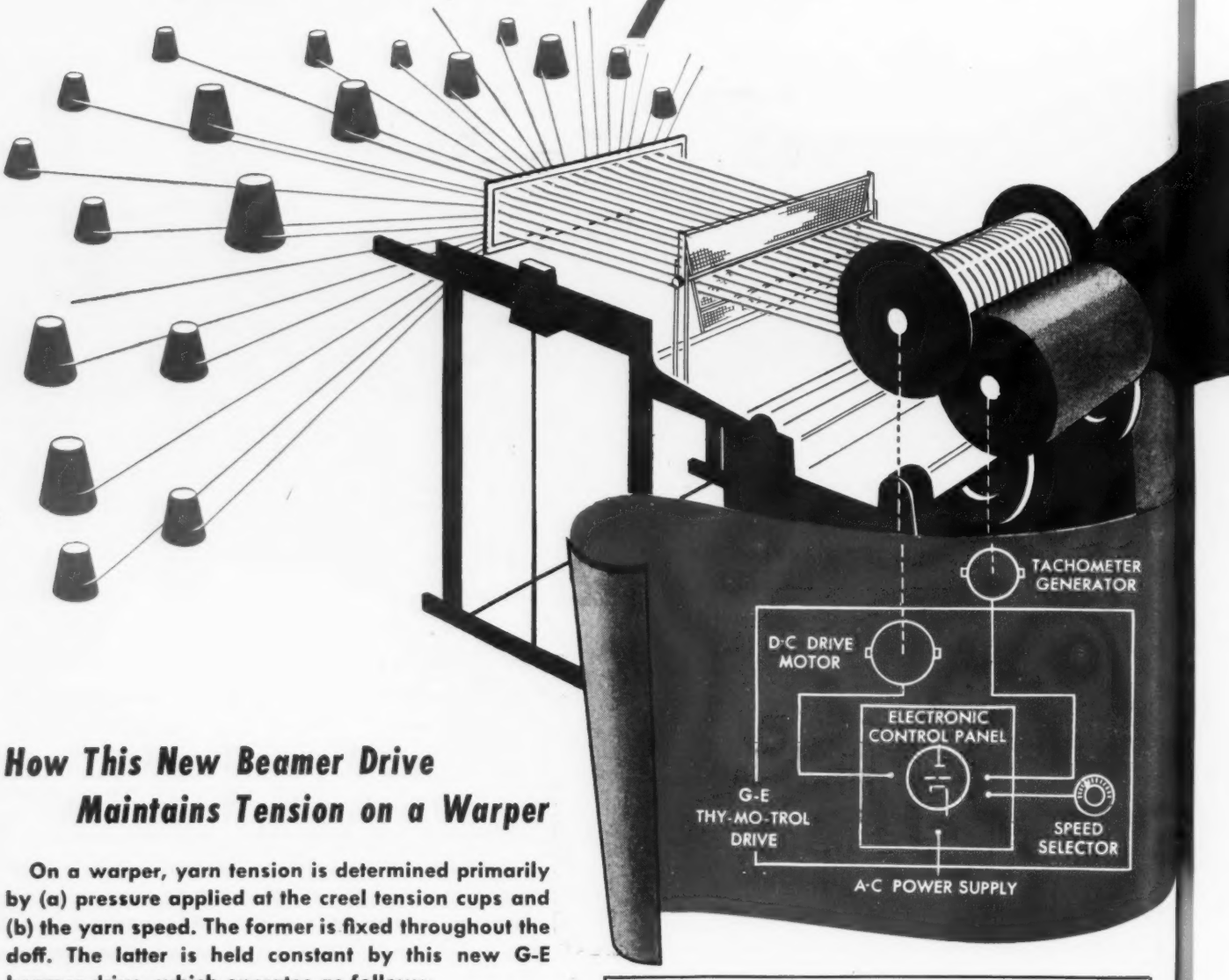
EASTERN STAINLESS STEEL CORPORATION

BALTIMORE 3, MARYLAND

Stainless Sheets Exclusively • Distributors' stock available in most areas

CHICAGO • CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • PHILADELPHIA

Pampers



How This New Beamer Drive Maintains Tension on a Warper

On a warper, yarn tension is determined primarily by (a) pressure applied at the creel tension cups and (b) the yarn speed. The former is fixed throughout the doff. The latter is held constant by this new G-E beamer drive, which operates as follows:

A tachometer-generator is coupled to the compress roll. Since the speed of this roll is directly proportional to yarn speed, a voltage is generated which is, in turn, proportional to yarn speed.

As the beam diameter increases, yarn speed and roll speed tend to increase. The tachometer generator instantly and continuously transmits the increasing voltage signal to an electronic control panel which automatically and smoothly reduces the driving motor speed to compensate for the increasing beam diameter. Yarn speed is thus kept constant, thereby maintaining a consistent level of tension throughout the beaming operation.

If you're processing yarns at HIGH TENSION . . . . . .

Mill operators who are working with yarns at high tension will be interested in G.E.'s new high-tension, high-precision beamer drive. Now being successfully used on slashers, its close control over beaming tension has helped to reduce "seconds" and has contributed to higher product quality. Requires no friction clutches, slipping belts, or other mechanical equipment.

delicate yarns

NEW G-E beamer drive holds yarn tension within very close limits

SPECIAL care in handling is not enough when you're warping fine rayon, high-counts cotton, and other delicate yarns. Machines, too, should "pamper" the yarn. How? By holding tension to exact standards throughout the beaming operation. This is the function of a new, low-tension, high-precision beamer drive developed by G.E.

Using electronic control, this new drive automatically holds yarn speed constant throughout the doff (within limits of $\pm 0.5\%$). This close control of yarn speed is a fundamental requirement for maintaining tension in the warping operation. The result is more uniform beams with fewer breaks on the slasher. And because there are fewer work stoppages, your output per machine increases.

This new beamer drive is only one of a wide variety of automatic tension-control systems developed by G.E. for practically all textile manufacturing operations. These include drives for slashers, mercerizing ranges, yarn winders, and duo-dye-jigs. A G-E textile application engineer will be glad to discuss the characteristics of any one or all of these systems with you. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

Keep on buying Bonds—*and keep all you buy*

6 *Major Benefits of the New* G-E BEAMER DRIVE

1. **Maintains yarn tension within very close limits throughout the doff.**
2. **Installed easily and quickly. No cams or mechanical linkages needed.**
3. **There is no motor-generator set or mechanical speed changer to occupy valuable floor space.**
4. **Simple to operate. Yarn speeds are easily set by simple dial adjustment.**
5. **Beamer accelerates smoothly and at a rate which is adjustable; decelerates quickly and smoothly when stop button is pressed.**
6. **Withstands severe mill-service conditions. Requires little maintenance.**

GENERAL ELECTRIC

661-26-8623

TEXTILE MILLS are located in Alabama because here they find many intelligent women workers ready to accept employment.

Other reasons are a state government that believes in fair treatment to business; a natural climate that is mild and makes for low cost in textile manufacture; friendly towns away from congested industrial areas; native-born help which learns quickly; a dependable supply of low-cost electric power.

Your correspondence relative to possible locations for your plant is invited. Write our Industrial Development Division, Birmingham. Our engineers will compile, without expense or obligation to you, facts to help you reach a decision.

Thos. W. Martin

President

ALABAMA POWER COMPANY

COLOR

...the Master Salesman

You have only to imagine a world without COLOR to appreciate the importance of the latter. To ignore color in the styling of textile products is to overlook a selling force more appealing than the fabric itself.

When styling and producing yarn dyed fabrics, use Franklin Process Yarn Dyeing and you get a four plant service, with a combined capacity of over 600,000 lbs. per week, backed by 35 years of experience in selecting the proper dyes for the purpose.

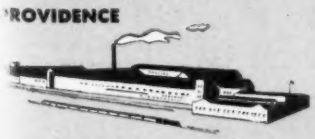
Whether one plant or all four plants serve you, color quality will be uniform.

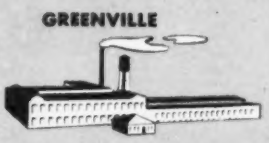
Franklin Process

LARGEST PACKAGE DYERS IN THE WORLD

New York Representative, 40 Worth St.; Chicago Representative, 100 W. Monroe St.

P. OUCTS OF NARROW FABRIC AND BRAID MANUFACTURERS—TWO OF THE MANY BRANCHES OF THE TEXTILE INDUSTRY WHICH WE SERVE





WHAT DETERMINES THE QUALITY OF WOOLEN & WORSTED FABRICS?

It takes more than good wool to make a good fabric. Good processing is also essential and one of the most important processes is the carding. Good carding requires not only good card clothing, but also the right card clothing for the purpose.

There's no better card clothing than Ashworth; and Ashworth representatives . . . all practical card men . . . will be glad to consult with you on your card clothing problems.

Ask for further details.

ASHWORTH BROS., INC.

AMERICAN CARD CLOTHING CO. (Woolen Div.)
Fall River*†‡ Worcester*‡ Philadelphia*†‡ Atlanta*‡
Greenville†‡ Charlotte†‡ Dallas*‡ (Textile Sply. Co.)

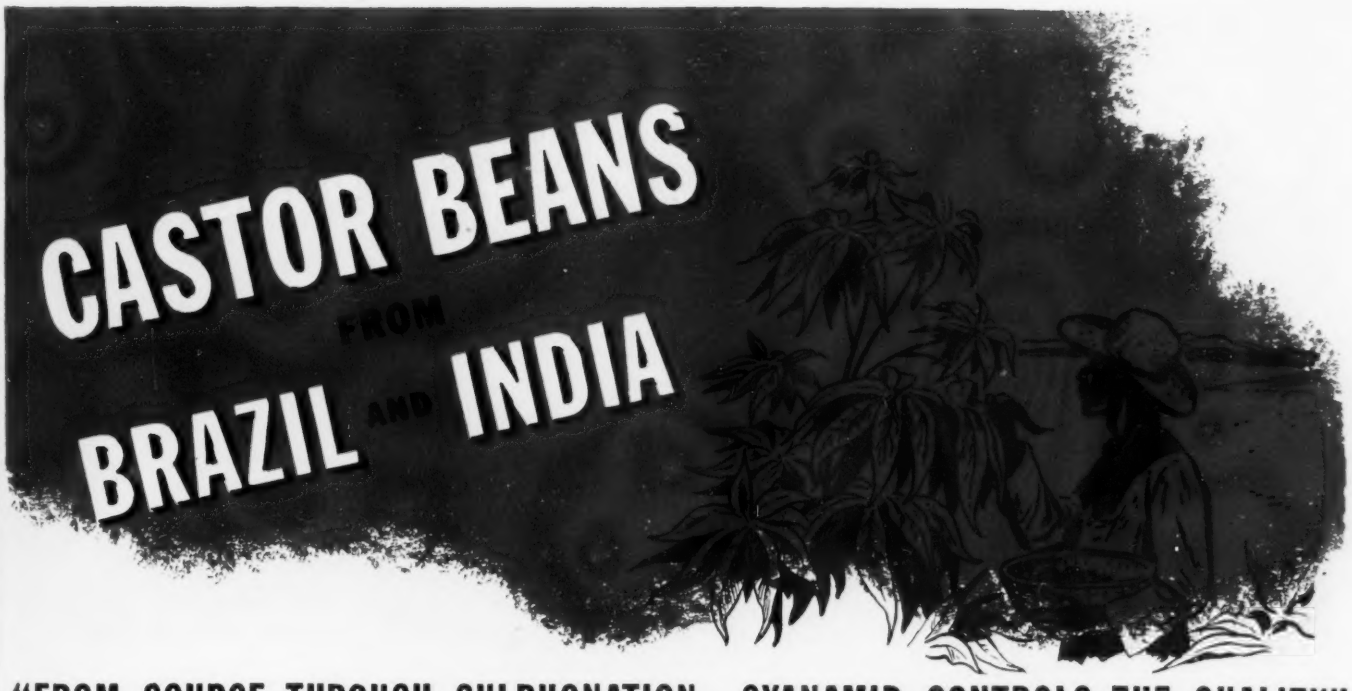
*Factory †Repair Shop ‡Distributing Plant

PRODUCTS AND SERVICES

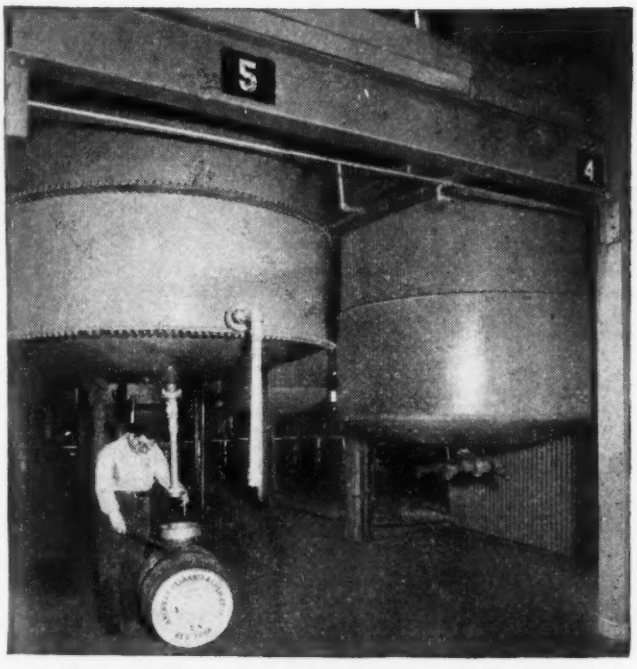
CARD CLOTHING FOR COTTON, WOOL, WORSTED, SILK, RAYON AND ASBESTOS CARDS AND FOR ALL TYPES OF NAPPING MACHINERY • BRUSHER CLOTHING AND CARD CLOTHING FOR SPECIAL PURPOSES • LICKERIN WIRE AND GARNET WIRE • SOLE DISTRIBUTORS FOR PLATT'S METALLIC WIRE • LICKERINS AND TOP FLATS RECLOTHED . . . . . .

Ashworth PIONEERS IN CARD CLOTHING

3 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS



"FROM SOURCE THROUGH SULPHONATION—CYANAMID CONTROLS THE QUALITY"



One of Cyanamid's modern large-capacity units for the production of textile chemicals. Large-scale production means greatest possible uniformity in chemical supply.

AMONG CYANAMID PRODUCTS FOR THE TEXTILE INDUSTRY ARE...

Penetrants • Softeners • Finishes
Sizing Compounds • DECERESOL* OT Wetting Agents
PARAMUL 115 Water Repellent, and other specialties and Heavy Chemicals**

**Reg. U. S. Pat. Off. **Trade-Mark*

During the past few years the difficulty of obtaining natural oils from abroad has made it necessary for textile mills to use sulphonated oils made from domestic oils almost exclusively. Those who have used Cyanamid products have not only found them consistently high in quality but consistently *available.* For Cyanamid has established completely reliable sources of supply for its domestic oils and employs modern, large scale equipment in processing them. For example, Cyanamid's sulphonated castor oil has been available in large quantities to meet the most exacting requirements and has helped many mills to maintain high standards in the quality of their textile products. Whatever your demands, you can depend on Cyanamid as a steady, reliable source of supply for:

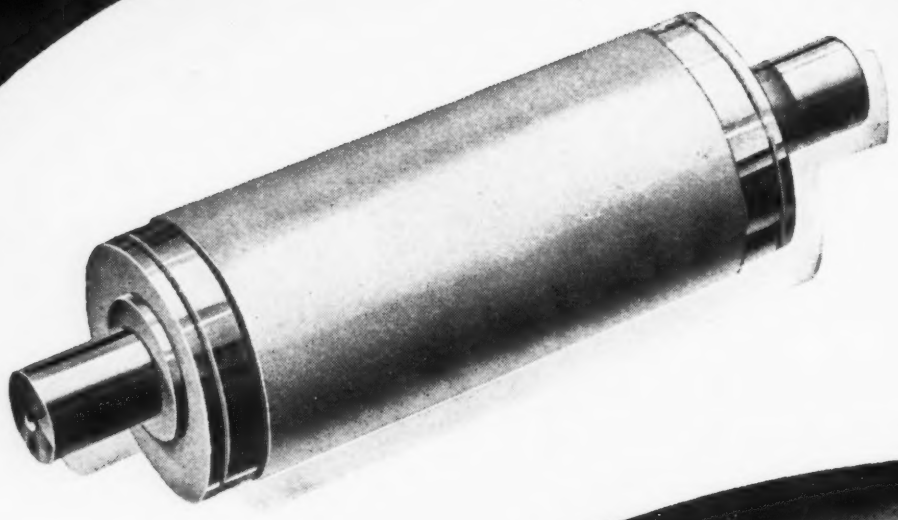
IMPORTED—	DOMESTIC—
Olive Oil	Castor Oil
Tea Seed Oil	Red Oil
Cocoanut Oil	Peanut Oil
Babassu Oil	Corn Oil
Rape Seed Oil	Cottonseed Oil
Sperm Oil	Soya Bean Oil

American CYANAMID & Chemical Corporation

(A UNIT OF AMERICAN CYANAMID COMPANY)

30 ROCKEFELLER PLAZA • NEW YORK 20, NEW YORK

PERKINS RESEARCH
keeps pace with INDUSTRIAL PROGRESS



PERKINS
CALENDER ROLLS

B. F. PERKINS & SONS, INC.
HOLYOKE · MASSACHUSETTS

The tendency of warp and filler threads to slip and shift in otherwise good quality rayons, sheer cottons, nylons, and some wools, degrades those goods . . . reduces profits and satisfaction all along the line from manufacturer to ultimate user.

How to control this slippage has been an old, unsolved problem in the textile world.

Now, Monsanto's new organic silica sol, Syton* W20 . . . a colloidal dispersion of silica . . . offers for the first time a practical solution.

How Slippage Is Controlled

Slippage in fabrics occurs because the slick, often frictionless surfaces of warp and filler threads have no adherence for each other. Under abrasion or uneven tension they are easily displaced.

Syton W20 overcomes this tendency by providing these threads with actual *non-skid* surfaces. The greatly increased co-efficient of friction between the fibers hinders the degrading excess movement between threads.

How Syton W20 Does It

Supplied as a water solution, Syton W20 is applied with regular padders and without heat. The tiny fibrils of silica suspended in the solution penetrate the individual fibers, leaving the valuable non-tacky, non-skid deposit.

Only low concentrations are required. The fabric is left supple and resilient . . . with a quality, dry, delustered finish.

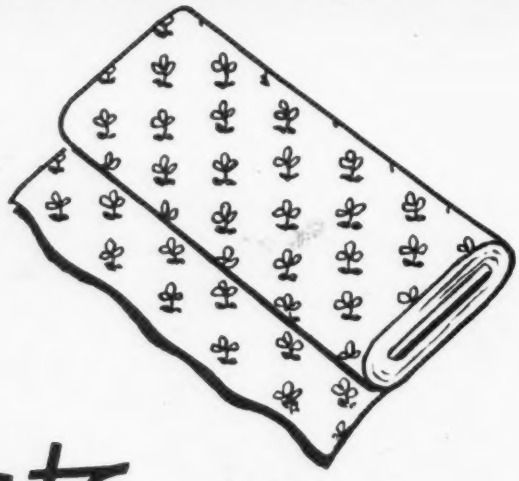
Ready Now

Syton W20 is now available in commercial quantities. For full information, technical data and details about a trial in your mill or plant simply write, wire or phone: MONSANTO CHEMICAL COMPANY, Textile Technical Service, Everett Station, Boston 49, Massachusetts.

MONSANTO
CHEMICALS AND PLASTICS

*Reg. U. S. Pat. Off.

The Textile
SERVING INDUSTRY . . . WHICH SERVES MANKIND

FROM TO 

Olate SPELLS

FOR RAYONS

Whether you're a processor of rayon hosiery, knitted fabrics, or woven piece goods, Olate can help you turn out a finished job which has "sale-ability" written all over it. This pure, neutral, low titer soap has a firmly established reputation for exceptional detergent, lubricating, wetting out, and penetrating properties. And for unusual *safety* to fiber and fabric.

FOR YARN FINISHING

Olate-scoured yarns give fabrics the pleasing finish and handle which contribute so much to eye-appeal and sales-appeal in the finished product. Scouring is thorough . . . rinsing is fast and complete. Protection against oxidation, rancidity, and odor development is exceptional.

FOR HOSIERY SCOURING AND DYEING

Count on unusual freedom from uneven dyeing when you scour hosiery with Olate. Count on top speed, too, for Olate's cleansing action starts the minute its fluid solutions penetrate the hosiery. Incidentally, Olate costs you less than most proprietary scouring oils.

FOR SCOURING AND DYEING WOVEN PIECE GOODS AND KNIT FABRICS

Olate's gentle cleansing, lubricating, and wetting out properties provide important advantages in scouring and dyeing fabrics. You'll see these advantages in terms of exceptional freedom from such trouble makers as uneven shrinkage, streaks, dye blotches, and chafe marks. Countless textile mills report that Olate's processing performance is helping them guard against costly, wasteful tie-ups and rejects. There's a place in your plant where Olate can be helpful.

Procter & Gamble

Olate

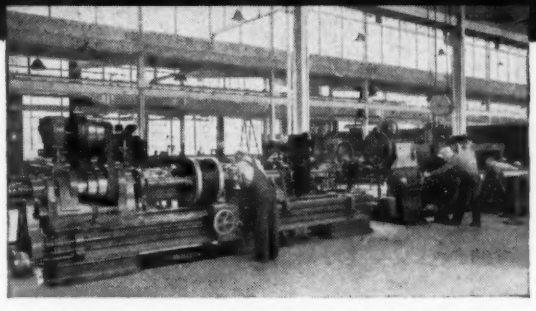
Safe and efficient for every textile soap usage

MEMO
TO THE TEXTILE INDUSTRY

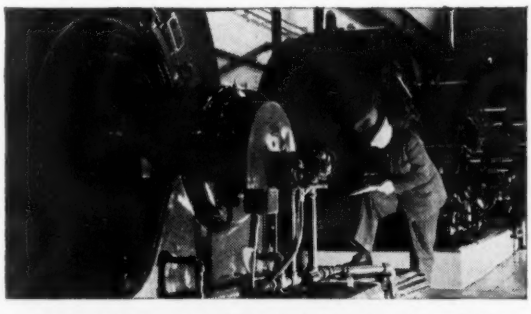
When vital electrical equipment needs reconditioning or repair... Call for

FACTORY PROVED

MAINTENANCE SERVICE



34 MODERN REPAIR PLANTS—These plants are fully equipped to handle repairs on any electrical equipment, which is not too large to be moved. Equipment includes special apparatus for High Frequency Testing, Dynamic Balancing, Metal Spraying, Phos-Copper Brazing, etc.



12 ENGINEERING AND SERVICE OFFICES—Factory-trained engineers are available to diagnose trouble, and work with your own engineers to speed up repairs. Portable field equipment assures accuracy.

17 RENEWAL PARTS WAREHOUSES — Conveniently located warehouses can give you prompt service on genuine Westinghouse renewal parts. A Maintenance Engineer is available to discuss any of your problems.

A Local Service for the Textile Industry

Whenever you need major electrical repairs in your plant—or repair and overhaul of equipment outside your plant—call Westinghouse. A nationwide maintenance organization, with local branches as close as your telephone, is ready to help you get apparatus back on the job in the shortest possible time.

This service offers 3-way flexibility to meet your needs: (1) *A Local Repair Plant*—completely equipped to handle repair and reconditioning of motors, generators, controls, transformers, etc. (2) *Field Engineering and Service* to handle major repair or overhaul jobs right in your plant. (3) *Renewal Parts Warehouses* to give you prompt service on genuine Westinghouse replacement parts.

To obtain any of these services, just phone your nearest Westinghouse Sales Office for a Maintenance Engineer.

J-96005-3

WHAT "FACTORY-PROVED" MAINTENANCE MEANS

This tag, attached to every repair job handled by Westinghouse, means that the work has been handled according to rigid factory standards. "Factory-Proved" methods and materials have been employed; the apparatus has been tested according to factory specifications; apparatus repairs carry the standard Westinghouse guarantee. This means better, longer-lasting repairs.

Westinghouse

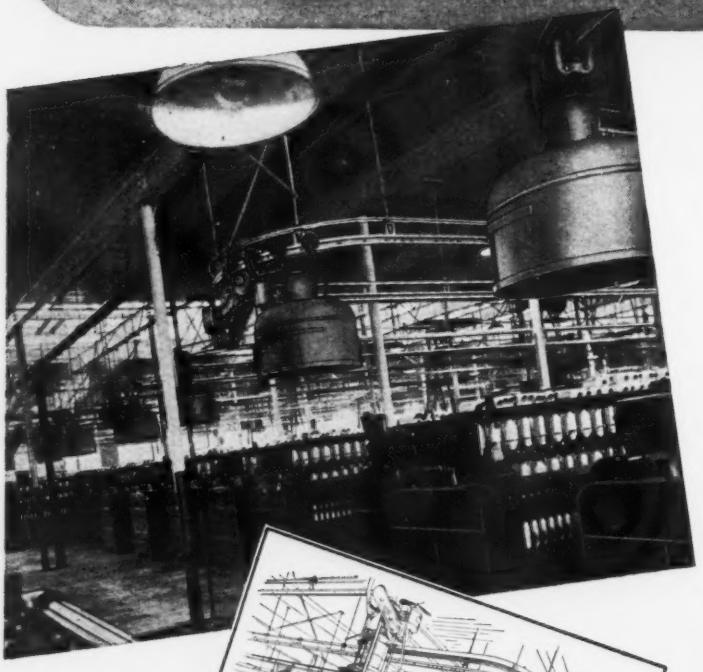
PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

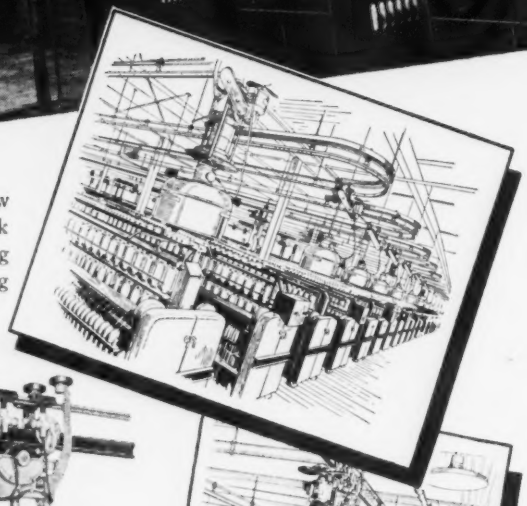
RENEWAL PARTS—ENGINEERING SERVICE—REPAIRS

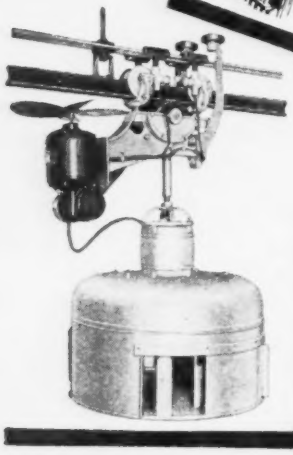
WANT THESE RESULTS . . .

- BETTER RUNNING WORK . . .
- FEWER GOUTS AND BUNCHES . . .
- LESS ENDS-DOWN . . .
- SPINNERS HANDLING MORE SIDES . . .
- LOWER CLEANING COSTS . . .
- NO LOST PRODUCTION . . .
- REDUCED MACHINE STOPPAGE . . .

AT LOWER OPERATING COSTS







Write for new 24-page book explaining cost saving advantages.

You can have them with

AMERICAN MONORAIL

Automatic

OVERHEAD CLEANERS

Let an American MonoRail Engineer explain these advantages and tell you the complete story of Controlled Cyclonic Cleaning for spinning, winding, twisting and warping operations. This information will be gladly given without cost or obligation on your part.

THE AMERICAN MONORAIL CO.

13108 ATHENS AVE. CLEVELAND 7, OHIO

TENSIONLESS DYEING

Rayon requires near-tensionless processing — especially in the wet state. Van Vlaanderen has developed a complete line of tensionless equipment — the Slack-strand Scouring or Boil-off Machine, the Loose-form Conveyor-type Scouring Machine, the Continuous Slack-strand Dyeing Machine, the Loose-form Conveyor-type Dryer and the Tensionless Dyeing Machine shown here.

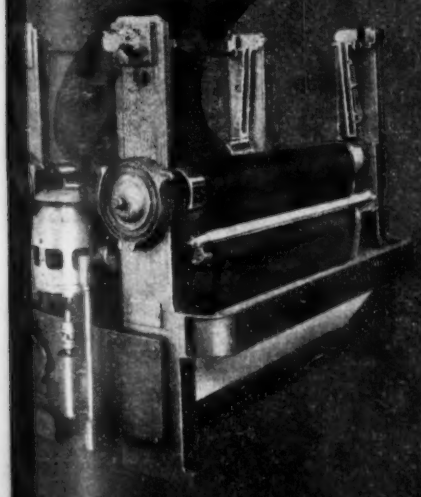
This machine prevents harmful tension because both rolls are driven. Uniform dyeing results are obtained by nearly-constant cloth speed through the dye bath. 34" batches are possible because tension does not build up as roll increases in size.

There are other advantages. Write for folder giving full information.

VAN VLAANDEREN MACHINE CO.

370 Straight Street **Paterson, N. J.**

World's largest manufacturer of machinery for processing modern fabrics.



VAN VLAANDEREN

TENSIONLESS OPEN WIDTH

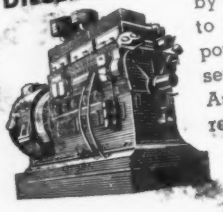
DYEING MACHINE

TURN TO TYCOL "Engineered

ENGINEERED SOLUTIONS TO YOUR LUBRICATION PROBLEMS *at your fingertips*

Tycol lubricants are made in a comprehensive line to meet each specific service requirement. Their performance-proved lubricating ability is the result of modern scientific engineering and rigid testing. The line includes:

DIESEL OILS of 100% paraffine base, refined by the most modern processes to eliminate unstable compounds that would oxidize in service. There is a Tide Water Associated Oil for every Diesel requirement.



TURBINE OILS with great stability and resistance to emulsification . . . free from sludge-forming hydrocarbons . . . engineered to inhibit Rust.

CYLINDER OILS refined from 100% Pennsylvania Crude. They have exceptionally high resistance to breakdown under high temperature operation.

SPECIALIZED INDUSTRIAL LUBRICANTS for all types of machinery in all types of industry — from steel to textile.

GREEN CAST GREASES, made from paraffine base cylinder oil with a minimum of soap . . . extremely economical, giving greater lubrication per pound than do conventional greases.

VEEDOL MOTOR OIL, refined from 100% Pennsylvania Crude by Tide Water Associated's triple-refining process, which produces that tough "film of protection" — famous all over the world.

Any Tide Water Associate office will help you select the oil or grease best suited to your needs.

Drums! Drums! Drums!

War needs make it imperative that all empty drums be returned immediately.

INDUSTRIAL TYCOL OILS-GREASES

TYCOL INDUSTRIAL

ENGINEERED FOR EVERY

Lubrication"

FOR GREATER SERVICE...LONGER LIFE

from *everything* that *TURNS!*

All equipment will last longer — give better service — if the proper lubricant is used. That's why you will find it profitable to use Tycol oils and greases.

There's a reason! No matter what your lubricating need — extreme pressure*, high or low temperature, high speed, or any other service condition — there's a Tycol Oil or Grease scientifically engineered exactly to suit your specific requirements.

Refined from the highest grade crudes, Tycol lubricants are exceptionally resistant to breakdown which means greater economy . . . longer machine life for every type of equipment.

Tide Water Associated engineers will gladly recommend the Tycol lubricant that meets your particular requirements. Call, write or wire your nearest Tide Water Associated office today.

Makers of the Famous VEEDOL Motor Oil

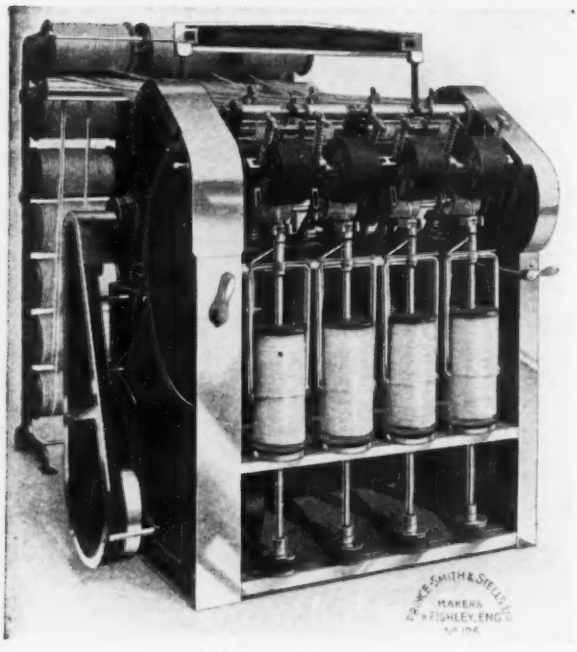
***EXTREME PRESSURE!** For clear, concise descriptions of the basic tests used to determine important lubricant properties — Viscosity, Pour Point, Extreme Pressure and many others — consult Tide Water Associated's informative handbook "Lubricania". For your FREE copy write: Tide Water Associated Oil Company, 17 Battery Place, New York 4, N. Y.

UBRICANTS
RVICE NEED

TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE · NEW YORK 4, N. Y.

PRINCIPAL OFFICES
BOSTON · PHILADELPHIA
PITTSBURGH · CHARLOTTE, N. C.

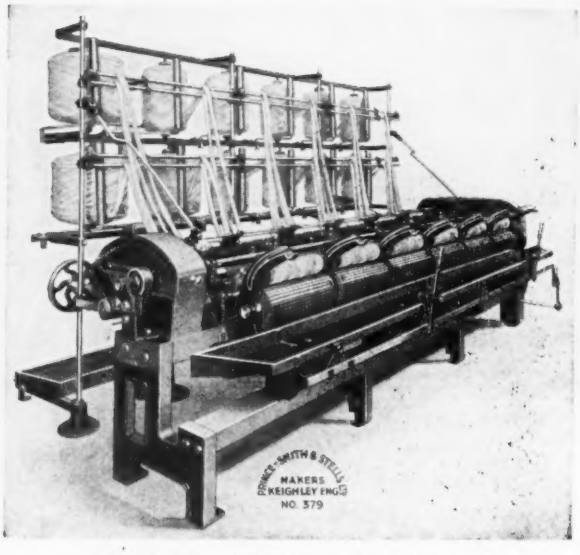
WORSTED



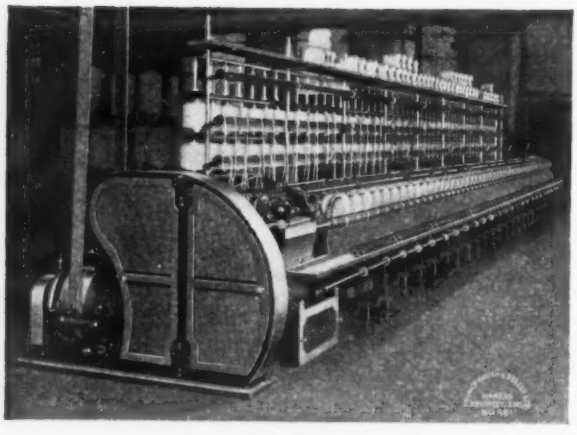
ENGLISH DRAWING BOX

ENGLISH, ANGLO - CONTINENTAL AND CONTINENTAL SYSTEMS.

WE MANUFACTURE MACHINERY CAPABLE OF PRODUCING ALL QUALITIES AND TYPES OF WORSTED YARNS.



ANGLO-CONTINENTAL DRAWING BOX



CONTINENTAL DRAWING BOX

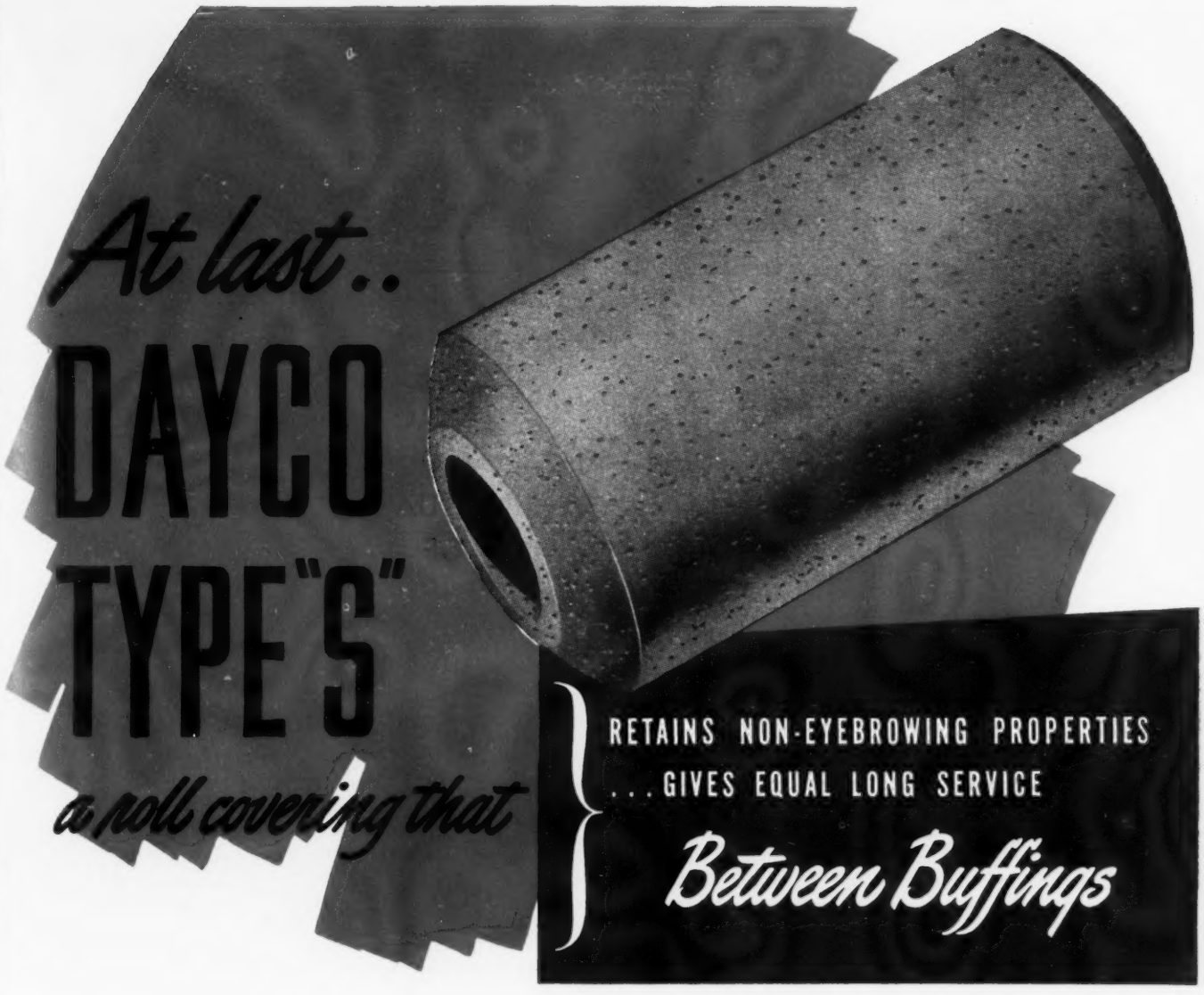
WHEN YOU ARE CONSIDERING ANY EXTENSIONS OR ALTERATIONS TO YOUR PLANT MAY WE HAVE THE PLEASURE OF OFFERING YOU OUR SERVICES.

Sole Agents U. S. A. and Canada
ATKINSON, HASERICK & CO.
211 Congress Street
Boston 6, Mass.

PRINCE-SMITH & STELLS LTD.

WORSTED MACHINERY MANUFACTURERS

KEIGHLEY (Yorkshire) **ENGLAND**



Especially designed for spinning frames equipped with flat clearers, where eyebrowing is a problem, the new Dayco Type "S" Roll Covering is the latest addition to the ever-growing Dayco line of specialized synthetic rubber textile products that are reducing costs, increasing production in leading textile mills everywhere. Embodying all the advantages of the popular Dayco Type "C" Cot, including improved drafting, no grooving, longer service life, lower net roller cost and many others, the new Type "S" has been especially engineered to reduce eyebrowing to a minimum. Study its many *PLUS* advantages in the box at the right. Then write for full information about the new Type "S" Roll Covering for spinning frames with flat clearers, and the Type "C" for revolving clearers.

THE DAYTON RUBBER MANUFACTURING COMPANY

DAYTON 1, OHIO **WAYNESVILLE, N. C.**

MAIN SALES OFFICE: WOODSIDE BLDG., GREENVILLE, S. C.

...AND PROVIDES THESE OTHER ADVANTAGES, TOO!

1. Large reduction of ends down.
2. More foreign elements removed from yarn.
3. Specially compounded for uniform wear, lengthening service life.
4. Equally effective for special types of synthetic and synthetic blends of yarn.
5. Decreases flying lint in spinning room.
6. Produces more uniform yarn.
7. Unaffected by temperature changes.

Roll Coverings by

Dayton Rubber

REG. TRADE MARK THE DAYTON RUBBER MFG. CO.

THE MARK OF TECHNICAL EXCELLENCE IN SYNTHETIC RUBBER

FAMOUS DAYCO SYNTHETIC RUBBER PRODUCTS SINCE 1934

A Recent Installation of Four SARGENT STOCK DRYERS
in a Progressive New England Worsted Mill

A Production Problem Solved -

• • • THIS IS THE IMPORTANT FACT!

Advantages of this modern installation

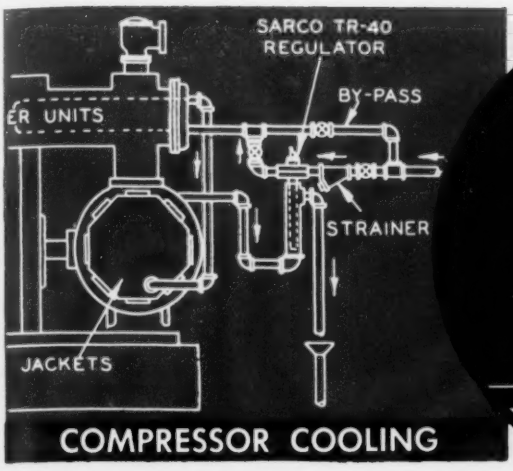
— Stock dried at lower temperatures — The use of low pressure steam
— Lower power consumption — Less floor space required
— Costly repairs and breakdowns eliminated — A better product

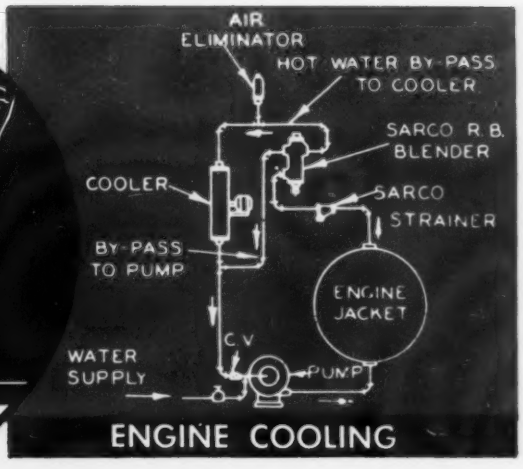
Why not let SARGENT solve your Drying troubles ?

Important Defense Items by SARGENT	Machines for Smokeless Powder Plants • Machines for Synthetic Rubber Plants • Textile Machinery for the manufacture of uniforms • Machined parts for large caliber guns

C. G. SARGENT'S SONS CORPORATION

Graniteville, Massachusetts, U.S.A.





HOW MANY VALVES
COULD YOU TURN IN A MINUTE?

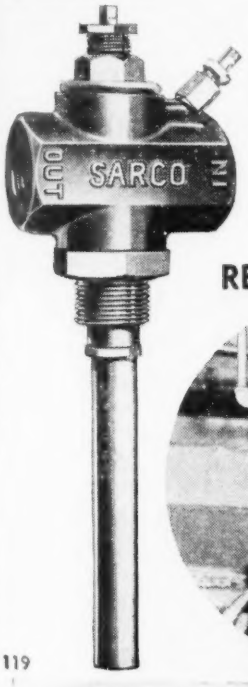
It depends on how fast you can run—for the points at which simple temperature control is needed are distributed all over your plant.

Also, requirements for cooling water on engine, compressor jackets and condenser, for heat in process work and even the hot water service for washing and showers, vary by the minute. An army of men couldn't run fast enough to keep temperatures in line.

And the cost of turning valves by hand is tremendous—in wasted heat and water—in rejects or delayed production. The cost of controlling temperatures with Sarco is low and soon forgotten. There is a simple, reliable, inexpensive Sarco control for every heating and cooling operation in your plant. Ask the nearest Sarco representative or send for the Sarco Hook-Up Book.

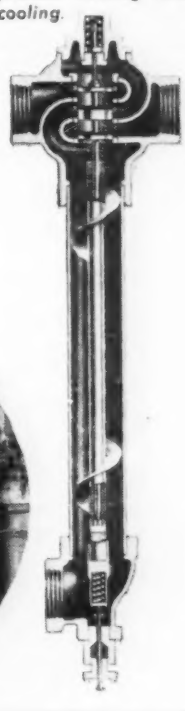
SARCO TR-40

A simple cooling control for compressors, condensers and stills — saves up to 50% of the cooling water.

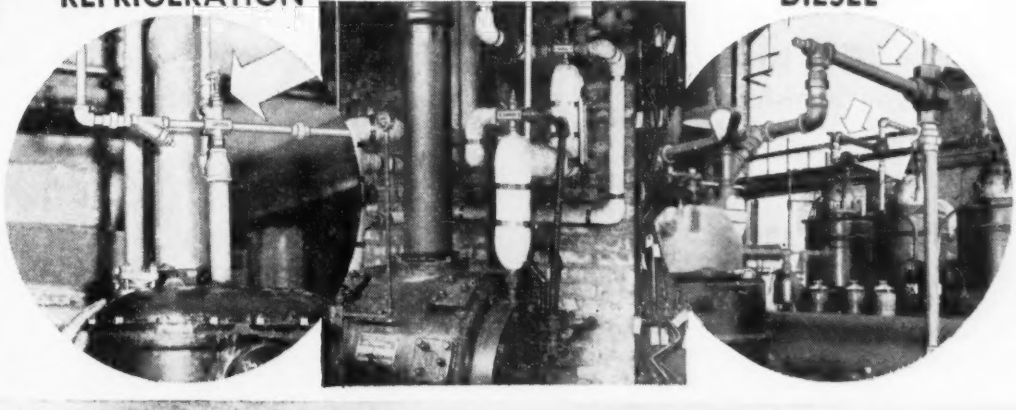


SARCO BLENDER

For Diesels, Showers, process heating and cooling.



REFRIGERATION **AIR COMPRESSOR** **DIESEL**



119

FOUR STARS
ON OUR E PENNANT
TESTIFY TO SARCO
PERFORMANCE
IN THE WAR EFFORT

ARMY E NAVY

SARCO SAVES STEAM

Represented in Principal Cities

SARCO COMPANY, INC., 475 FIFTH AVE., NEW YORK 17, N.Y. • Sarco Canada, Ltd., 85 Richmond St., W., Toronto 1, Ont.

RUST COSTS INDUSTRY

$100,000,000 ___ HOW MUCH DOES IT COST YOU?

Answer $_____

It would be well worth your while to fill in the answer . . . **because that's exactly how much we believe we can save you.**

Two Cities Service products, Rust Remover and Anti-Corrode, in grades for every specific industrial need, have quickly and effectively helped many companies eliminate this liability.

Cities Service RUST REMOVER clears metals of rust or tarnish. Works quickly —easy to apply.

Cities Service ANTI-CORRODE *prevents* rust, provides an impenetrable film that protects metals against rust or corrosion.

• • •

Talk it over with your local Cities Service engineer . . . see for yourself what his rust prevention plan can do for you or . . .

Cities Service Oil Co.
Room 518, 70 Pine Street, New York 5, New York

Gentlemen: Please send me full information on Cities Service Rust Prevention Plan.

Name .....

Title .....

Company .....

Address .....

City ..... State .....

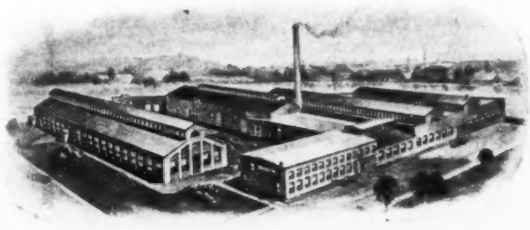
MAIL THIS COUPON TODAY

CITIES SERVICE OILS
ONCE-ALWAYS

Powerful IS THE WORD FOR SULFRAMINE DT*

Ultra's amazing new POWDER detergent

Leading textile mills are finding Sulframine DT an exceptionally efficient and economical detergent. Chemically classified as an alkylaminosulphate, it can be utilized in almost every phase of boiling off and dyeing. As an emulsifier and foaming agent, Sulframine DT dissolves readily, and it will form rich suds even in dilutions of one to ten thousand or more parts of water. Not even the most severe water conditions can affect its phenomenal properties. Sulframine DT is totally immune to lime and magnesium salts . . . resistant to acids and alkalies . . . and will not deteriorate in storage. In fact, it can replace soap, eliminating the dangers of rancidity and stains left by unrinsed soap particles. Too, the thorough dispersing qualities of Sulframine DT make it an ideal dyeing assistant for rayon and acetate fabrics. Let a test prove your need for Sulframine DT. One of our technicians will be glad to bring you a practical mill run sample.

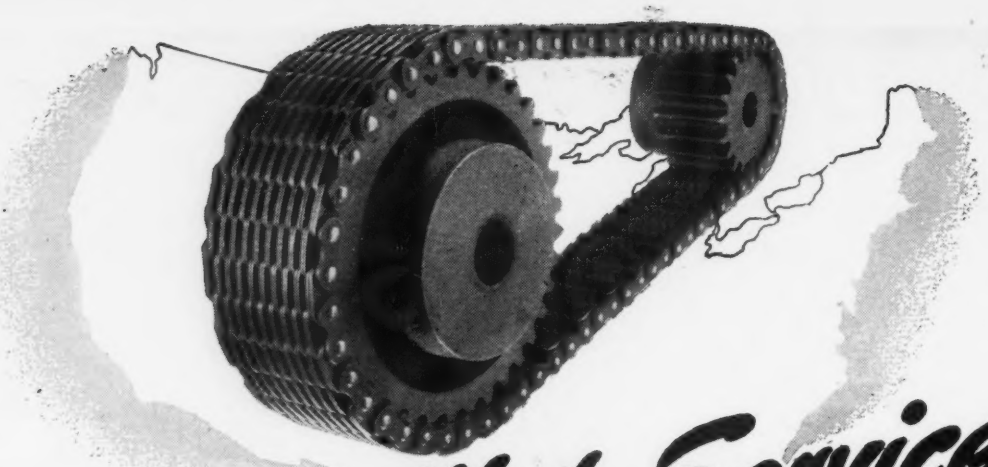


NOTE: Sulframine DT has potent commercial uses in dozens of other industries: Dry Cleaning, Dairy, Steel, Insecticide, Cosmetics, and Household Preparations. Wire or write—today—for more detailed information.

ULTRA CHEMICAL WORKS
INCORPORATED

Paterson, N. J. **Chicago, Illinois**

OTHER ULTRA CHEMICAL PRODUCT DEVELOPMENTS . . . ULTRAMINE • DETERGOL • SULFRAMINE DT PASTE
SULFRAMINE DR PASTE • SULFRAMINE POWDER • ALBUTEX • ALBUTINE • DERMASOL • ULTRA GLOSS B • DULLITE T
*Sulframine DT is made from an exclusive formula—U. S. Pat. Pending SULFRAMINE DT—REG. U. S. PAT. OFF.



Nation-Wide Service

There is no better authority on the solution of power transmission or conveyor chain problems than your WHITNEY authorized Distributor. His knowledge and experience are at your disposal — why not take advantage of it?

ALABAMA
Owen-Richards Co.
1009 Second Ave., N.
Birmingham

ARIZONA
Edward D. Maltby Co.
448 West Madison Street, Phoenix

ARKANSAS
Boal Foundry & Machinery Co.
S. 10th St. & Carnall Ave.
Fort Smith

CALIFORNIA
Automotive Parts Co.
Stockton
Bearing Engineering Co.
1019 Harrison St., Oakland 7
Bearing Engineering Co.
1545 Mission Street
San Francisco 3
Hopper Machine Works
Bakersfield
E. D. Maltby Co.
1718 South Flower Street
Los Angeles 15
Motor Hardware & Equipment Co.
1125 Columbia Street, San Diego
Moty & Van Dyke
Alturas
Pacific Mill & Mine Supply Co.
Fresno

COLORADO
Western Belting & Packing Co.
1720–28 Wazee Street, Denver

CONNECTICUT
The Bidwell Hardware Co.
1293 Main Street, Hartford

FLORIDA
Moore Dry Kiln Co.
3323 Turner, Jacksonville

GEORGIA
The Pye-Barker Supply Co.
231 Pryor St., S.W., Atlanta

ILLINOIS
Bearings Service Co.
111 South Market St., Marion
Factory Supplies Co.
1528 7th Street, Rockford
Illinois Bearing Co.
513 Franklin Street, Peoria
Power Transmission Equip. Co.
130 N. Clinton Street, Chicago 6

INDIANA
Bearing Service Co.
9 N.W. First Street, Evansville
Bearing Service Co.
216A S. St. Joseph St., South Bend
Berry Bearing Co.
5811 Calumet Ave., Hammond

IOWA
Illinois-Iowa Bearing Co.
214 East 4th Street, Davenport
Illinois-Iowa Bearing Co.
510 12th Street, Des Moines
Pecaut Industrial Supply Co.
1819 East 4th Street, Sioux City

KANSAS
Warford Distributing Co.
315 S. St. Francis Street, Wichita

KENTUCKY
Bearings Service Co.
211 West Center Street,
Madisonville
Kentucky Bearings Co.
415 South Second St., Louisville

LOUISIANA
Prager, Incorporated
472 Howard Ave., New Orleans

MAINE
Edwards & Walker Co.
5 Monument Square, Portland

MARYLAND
Slaysman & Co.
813 E. Pratt Street, Baltimore 2

MASSACHUSETTS
Boston Pulley & Shafting Co.
387 Atlantic Avenue, Boston

MINNESOTA
Minnesota Bearing Co.
1624 Harmon Place, Minneapolis
Minnesota Bearings Co.
409 E. Superior Street, Duluth

MISSISSIPPI
Soule Steam Feed Works
Meridian
J. S. Stilley
419 South State Street, Jackson

MISSOURI
Langdon Supply Co.
1317–19 Union Ave., Kansas City
Transmission Supply Co.
3511 Chouteau Ave., St. Louis

MONTANA
Hall Perry Machine Co.
802 East Iron Street, Butte

NEBRASKA
Central Supply & Rubber Co.
Omaha

NEW YORK
Belt Rope Supply Co.
218 State Street, Binghamton
Belt Rope Supply Co.
1132 W. Genesee St., Syracuse
Belt Rope Supply Co.
520 John Street, Utica
Bickford & Francis Belting Co.
35 Pearl Street, Buffalo
L. C. Biglow & Co., Inc.
250 W. 54th Street, New York 19
Industrial Equipment Co.
82 State Street, Albany
Ward Bros. Mill Supply Co., Inc.
70–76 Market Street, Lockport

NORTH CAROLINA
Precision Gear & Machine Co.
115 West 8th Street, Charlotte

OHIO
McCash Transmission Service
32 East 13th Street, Cincinnati
Smith Power Transmission Co.
1545 E. 23rd Street, Cleveland 14

OKLAHOMA
Mideke Supply Company
100 East Main Street
Oklahoma City 2

OREGON
Berg-Evans Chain Company
116 S.W. Pine Street, Portland
Fisher Brothers
Astoria
Loggers' Supply Company
Marshfield
Moty & Van Dyke
Bend
Moty & Van Dyke
John Day
Moty & Van Dyke
Klamath Fallas
Moty & Van Dyke
Lakeview
Oregon Supply Company
250 West 4th Street, Eugene

PENNSYLVANIA
Berks Engineering Company
6th & Chestnut Streets, Reading
Jackson Gear Company
31st St. & Liberty Ave., Pittsburgh
Shingle & Gibb Company
4621 Lancaster Ave., Philadelphia

RHODE ISLAND
Providence Mill Supply Company
389 Charles Street, Providence

TENNESSEE
Memphis Bearing & Supply Co.
363 S. Main Street, Memphis 2

TEXAS
Brance-Krachy Company, Inc.
1703 Northport Avenue
Corpus Christi
Brance-Krachy Company, Inc.
4411 Navigation Blvd., Houston 1
General Engineering Corp.
Monroe & 13th Streets, Ft. Worth
A. D. Gugenheim Company
227 West 7th Street, Amarillo
Hirsch Bros. Machinery Company
1901 Bassett Avenue, El Paso
The Continental Supply Company
Continental Bldg., Dallas

UTAH
Bearing Service & Supply Co.
68 West 4th South Street
Salt Lake City

VIRGINIA
Taylor-Parker Co.
47 Commercial Place, Norfolk

WASHINGTON
Berg-Evans Chain Company
1729 First Avenue, S., Seattle
Morrison Harvester Supply Co.
Walla Walla
Morse Hardware Company
Bellingham
E. T. Pybus
Wenatchee
Washington Mach. & Supply Co.
W. 9 Cataldo Avenue, Spokane
Whitcher Machinery Co.
Aberdeen

WEST VIRGINIA
Beckley Machine & Electric Co.
Beckley

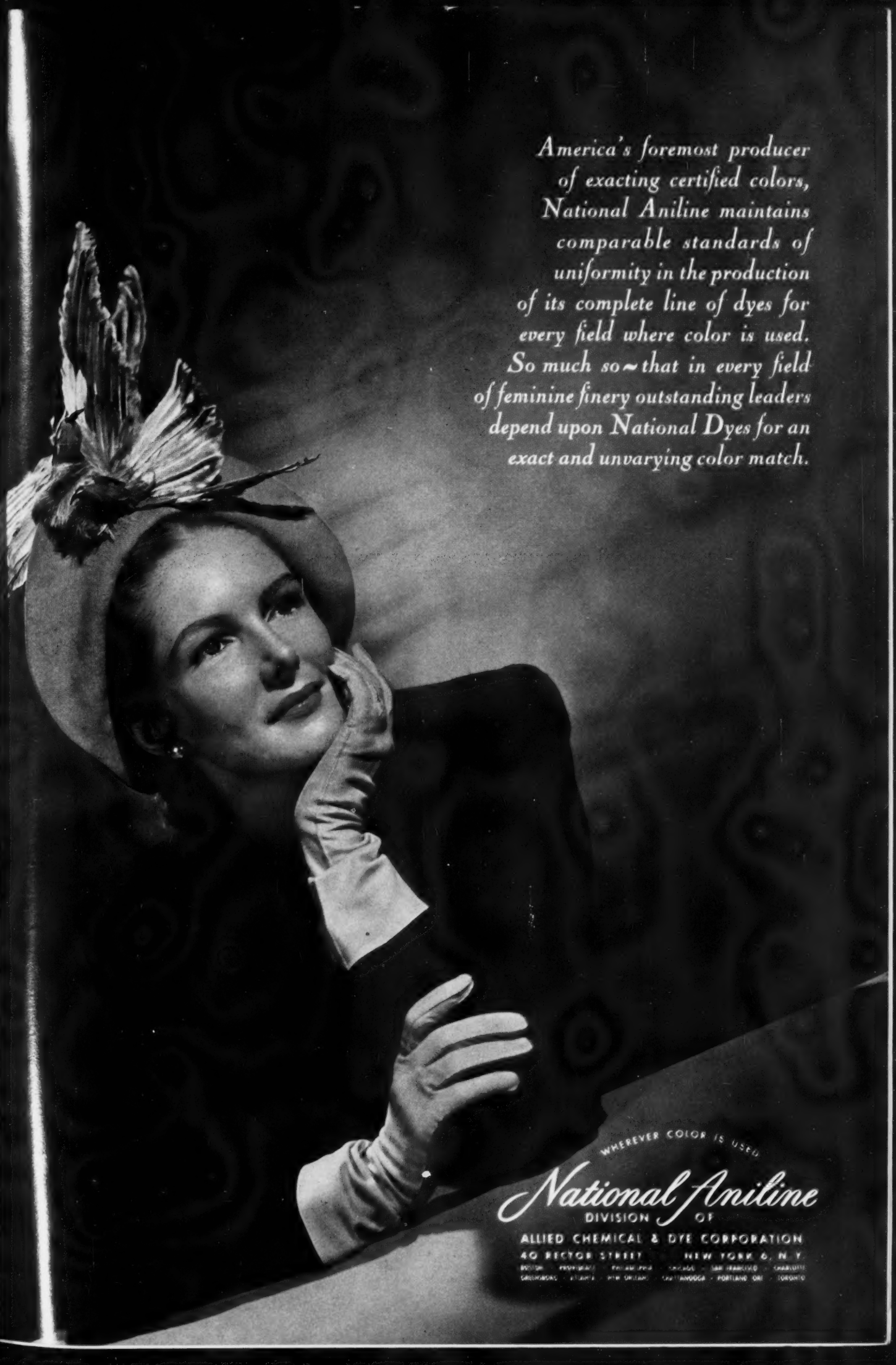
WISCONSIN
Wisconsin Bearing Company
426 East Wells Street, Milwaukee

CANADIAN DISTRIBUTORS
Williams & Wilson, Ltd.
544 Inspector Street
Montreal, Quebec
65 St. Anne Street
Quebec City, Quebec
11 West Front Street
Toronto, Ontario
301 Security Building
Windsor, Ontario

WHITNEY CHAINS

ROLLER • SILENT • CONVEYOR

THE WHITNEY CHAIN & MANUFACTURING COMPANY, HARTFORD 2, CONN.


America's foremost producer of exacting certified colors, National Aniline maintains comparable standards of uniformity in the production of its complete line of dyes for every field where color is used. So much so ~ that in every field of feminine finery outstanding leaders depend upon National Dyes for an exact and unvarying color match.
WHEREVER COLOR IS USED
National Aniline
DIVISION OF
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET NEW YORK 6, N. Y.

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
NEW YORK, N. Y.

Telephone: AShland 4-8650

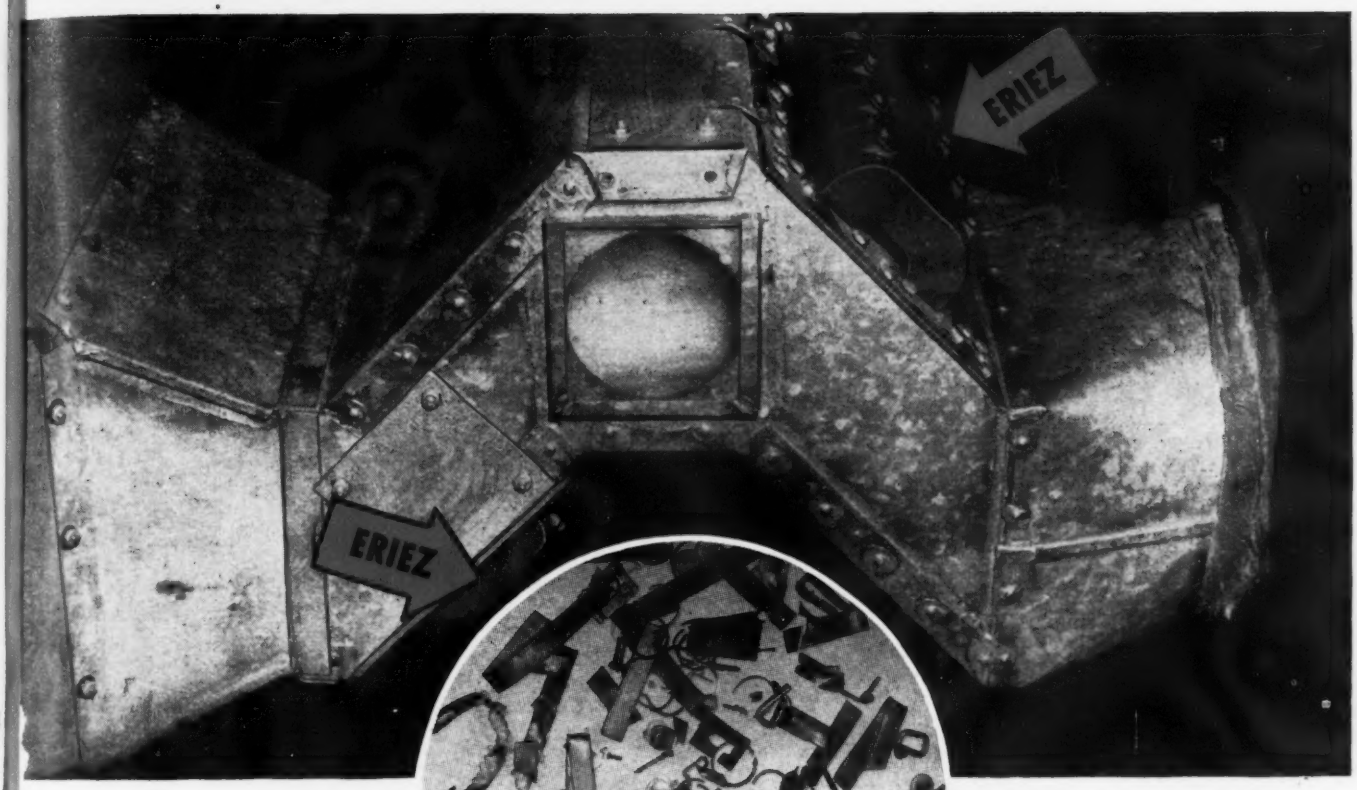
FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

●

ESTABLISHED 1840



How To Remove IRON AND STEEL TRASH From TEXTILES In Process

As Recommended And Approved by FIA

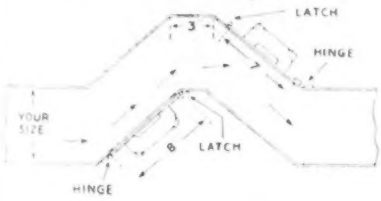
. . . "The use and value of permanent magnets has increased in recent years, due to improvements in design of the physical magnet and composition of the metal itself.

"The permanent magnet has sufficient strength to give complete satisfaction when properly installed. Proposed installations should be submitted to the insurance company having jurisdiction for approval.

"The permanent magnet is simple, requires practically no maintenance other than cleaning of collected trash, easily understood and maintained by ordinary labor, not dependent upon outside source of power, relatively light in weight, extremely flexible in design, economic in cost and presents no additional fire hazard of its own to the process protected.

"Numerous installations of permanent magnets are operating with complete satisfaction in many textile mills."

Factory Insurance Association
Hartford, Connecticut



TYPICAL AIR LINE INSTALLATION

CLIP AND MAIL TODAY .....

For Your Copy of Bulletin 103

Eriez Mfg. Co., 501 E. 12th St., Erie, Pa.

Your Name_____

Address_____

City_____ State_____

Eriez (Say EAR' EEZ)

ERIEZ MANUFACTURING COMPANY

501 East 12th St. Erie, Penna.

Who's got the edge on getting finished FIRST?

That's easy. The man who has no loose sheets — no carbon fuss to deal with. The man whose forms are all set for writing, and who by a simple twist of the wrist will complete his transaction. Here's convenience that means efficiency — UARCO Register convenience.

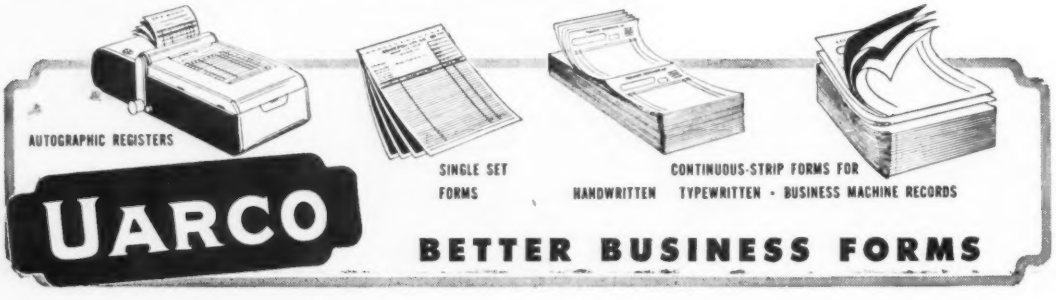
UARCO has a complete line of registers — a register to suit every record-writing need from purchasing orders to bills of lading. Forms, enough for a full day's use — usually more — are loaded at one time. The firm writing base plus an ever-fresh roll of carbon assures clean, legible copies. Also, if desired, registers that automatically file duplicate copies of every record written can be had.

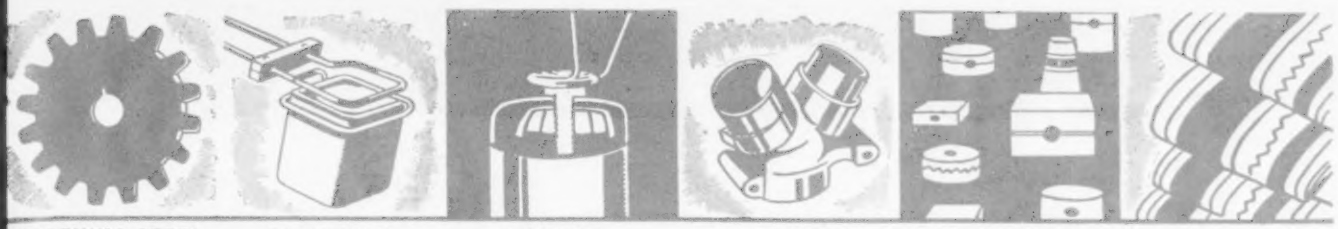
Check UARCO's story today. A UARCO representative will be glad to show you their complete line of Registers free of charge. Or write today.

For Instance

Here is one of UARCO's many Registers—the Featherweight. This register is suited for order writing in the field, for the taking of orders over the phone. It gives you all the register advantages you want in a small, compact case. For further details, write today.

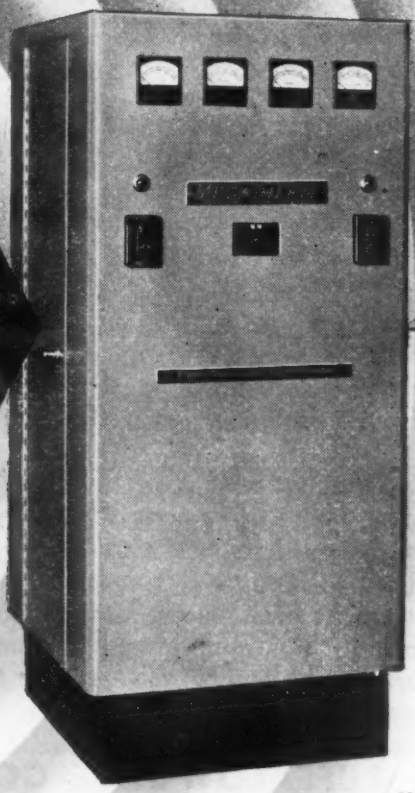
UNITED AUTOGRAPHIC REGISTER COMPANY
Chicago, Cleveland, Oakland • *Offices in All Principal Cities*





heat

induction or dielectric



WHEN you need it
WHERE you need it
FAST with MEGATHERM*

Ready . . . at the push of a button . . . MEGATHERM'S megacycle energy puts heat *where* you want it . . . instantly!

***Induction* . . . for thin-skin and contour hardening, annealing, brazing and soldering. Ferrous and non-ferrous metals quickly processed!**

***Dielectric* . . . for uniformly heating plastic materials, rubber, food, drugs, wood, textiles and cosmetics . . . rapid defrosting of frozen food!**

There's a MEGATHERM to fit your need . . . and a MEGATHERM Electronic Application Engineer to show you how MEGATHERM electronic heat can help you do a better job . . . build a better product.

Write on your company letterhead *today* for details.

Federal Telephone and Radio Corporation

AN IT&T ASSOCIATE

Newark 1, N. J.

*REG. U. S. PAT. OFF.

Keep your costs DOWN with good AIR

● Clean, live air at the right temperature and right humidity can reduce costs by increased production, reducing employee turnover . . . fewer "timeouts" for illness! "Buffalo" air conditioning equipment gives you this kind of air processing and ventilation in trouble-free, inexpensive, efficient *performance*.

The dependable "Buffalo" air conditioning cabinets pictured here are among several types and capacities designed to fill a variety of air requirements. Your need may be different . . . yet you may be assured, "Buffalo" equipment will handle it *to specification!* For competent recommendations as to your air problems, simply call in a trained "Buffalo" representative in any principal city.

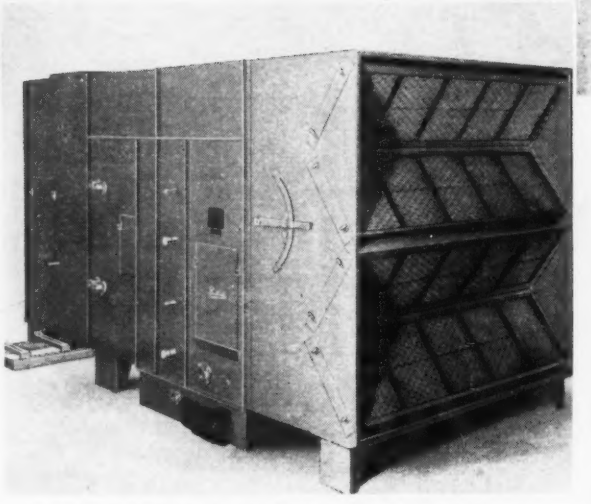
BUFFALO FORGE COMPANY

184 Mortimer Street **Buffalo, New York**

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

"Buffalo"

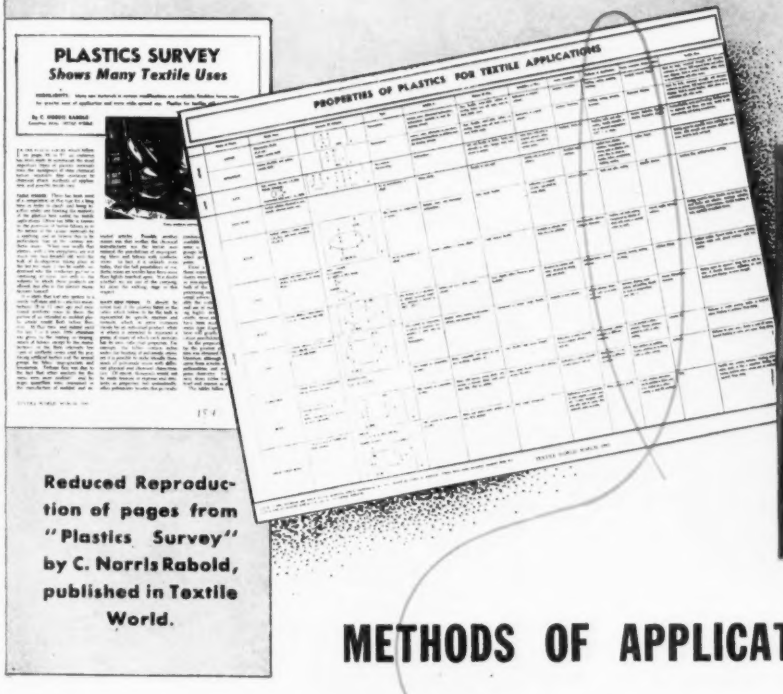
AIR CONDITIONING EQUIPMENT



"Buffalo" Type PC W Cabinet with By-Pass Damper Bulletin on request

"Buffalo" Wet Glass Cell Humidifier—Capacity 85,000 CFM. Write for Bulletin 3457.

Let *Plastics* transform your cloth into a glorious new material!



Reduced Reproduction of pages from "Plastics Survey" by C. Norris Rabold, published in Textile World.

Photo courtesy of Cleaveland Laboratories & Mfg. Co.

METHODS OF APPLICATION ARE PROVIDED WITH

WALDRON MACHINES

Waldron Machines For Your Process Include

- Reverse - Roll Coaters
- Knife Coaters
- Saturators
- Laminators
- Web Guides
- Unrolls
- Winders
- Rewinders

In his valuable survey, part of which is illustrated above, Mr. Rabold lists 27 plastics and 27 methods of applying them to textiles for as many textile uses. It is highly significant that for 25 out of the 27 there is now a time-tested WALDRON machine for the method of application suggested.

Plastic coated or saturated cloth holds tremendous possibilities for new markets for new materials—materials of greater beauty, durability and versatility. The majority of these will stem from the modern WALDRON machines designed to properly handle the required processing operations.

Investigate the possibilities for your product. Whatever your requirements, WALDRON engineers possess the specialized knowledge to properly advise you. Many of the most popular products already developed through a combination of plastics and textiles are the result of special processing on WALDRON machines.

Copy of "Plastics Survey" by C. Norris Rabold and our Catalog No. 112 will be gladly furnished on request.

JOHN WALDRON CORP.

Main Office & Works – NEW BRUNSWICK, NEW JERSEY

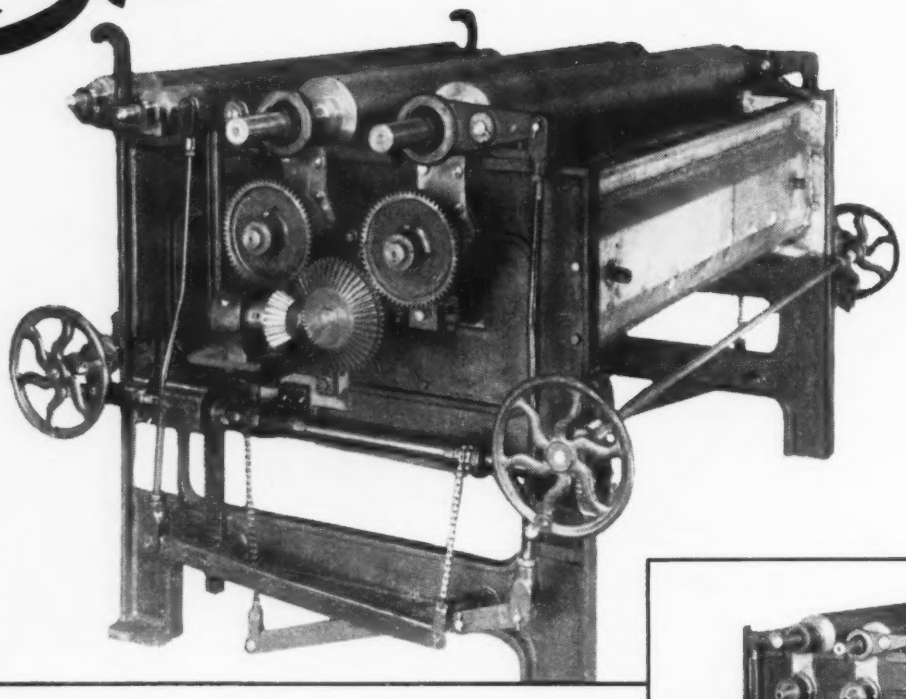
CHICAGO - 6
201 N. WELLS ST.

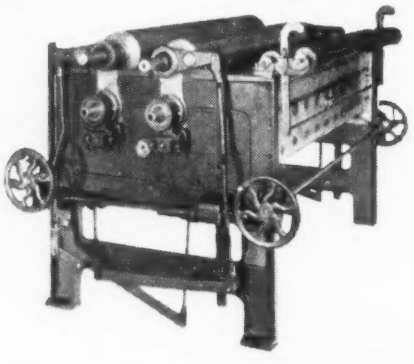
NEW YORK - 17
350 MADISON AVE.

BOSTON - 9
79 MILK ST.

BUILDERS OF QUALITY MACHINES SINCE 1827

SIZE BOXES

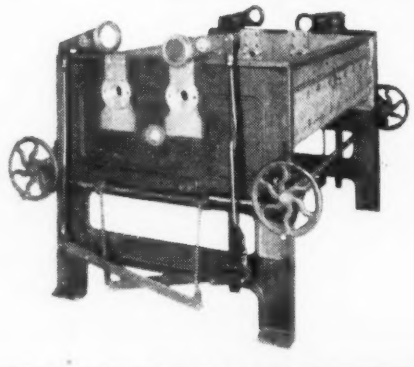




Above: Built of stainless steel, steam-jacketed, strongly braced. Steam jacket prevents dilution because no steam enters size. Note cut-tooth gears.

Right, top: View from other side. Ball bearings on size rolls. Ball bearing hangers on squeeze rolls hold them in perfect alignment and are connected to handwheel to permit raising for washing purposes.

Right, below: View with rolls removed. Deep brass stuffing boxes will not leak size.



This size box is typical of the mill machinery developed and manufactured in our foundry and shop. We can help you to make your manufacturing economical and more efficient. Often equipment you already have can be modernized at minimum cost. We will gladly make a study of your equipment without cost or obligation and submit proposals with estimates. If we can help, write us.

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

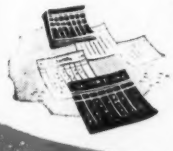
WEST POINT, GEORGIA

WAX MAKES THE DIFFERENCE

in this patented finish!

JOHNSON'S WAX-FORTIFIED INTERIOR FINISH gives you these 4 extra advantages!

1 *Greater mar resistance.* Remarkable ability to withstand scuffs and scratches.



2 *Stays clean longer.* Dust and dirt don't readily stick to a Wax-Fortified surface.

3 *Easier to clean,* when finally necessary. Because of the wax, dirt is easily wiped or brushed off.

4 *Satin-smooth, lustrous finish . . . no harsh glare.* Better light diffusion, easier on the eyes.

The Johnson laboratories have perfected this new patented Wax-Fortified maintenance finish which gives a rich, no-glare beauty, is exceptionally dirt- and wear-resistant, and amazingly easy to clean.

Wax protection for the life of the paint job

Johnson's Wax-Fortified Interior Finish is thoroughly impregnated with wax which is evenly distributed *all through* it, not just on the surface. As a result, the wax protection lasts as long as any finish remains — steps up maintenance efficiency, cuts maintenance costs. No special preparation is necessary for application. Brushability is improved because of the lubricating action of the wax. Broad coverage and great hiding power make for true painting economy.

Repainting is no problem

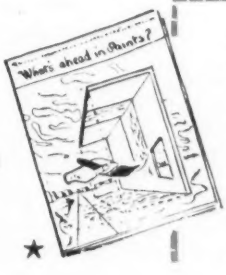
Because the wax is impregnated in the finish, it does not retard adhesion. Repainting may be done with Johnson's Wax-Fortified Interior Finish, or with ordinary paint.

Its versatility and special advantages mean that Johnson's Wax-Fortified Interior Finish will fit the needs of bakeries, food plants, dairies, restaurants, factories, office buildings, department stores, schools and hospitals. For the complete story, fill out and mail the coupon today!

Made by the makers of

JOHNSON'S WAX

S. C. JOHNSON & SON, Inc., Racine, Wisconsin



S. C. Johnson & Son, Inc., Dept. T-115, Maintenance Products Dept. Racine, Wisconsin

Gentlemen: Sure! "Wax Fortified" looks good to me. I'd like to see the "What's Ahead in Paints" brochure.

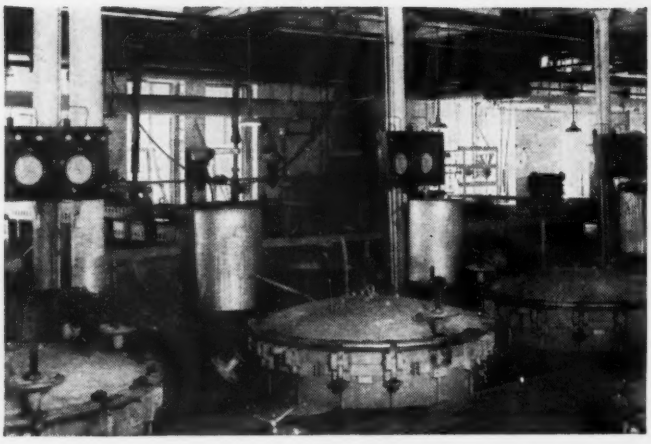
Name _____

Address _____

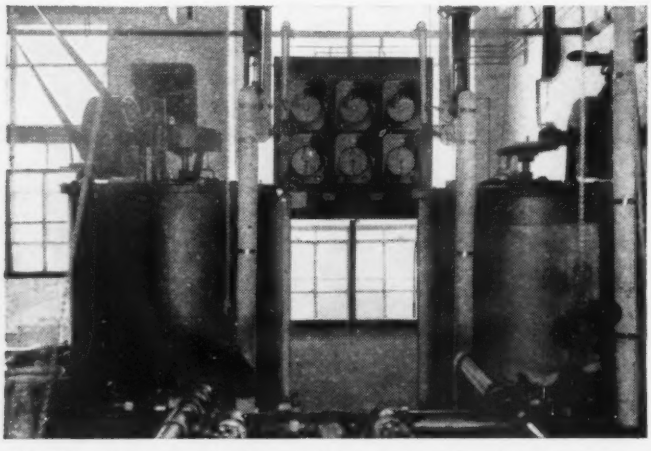
Business or institution _____

★ *Now Buy Victory Bonds!* ★

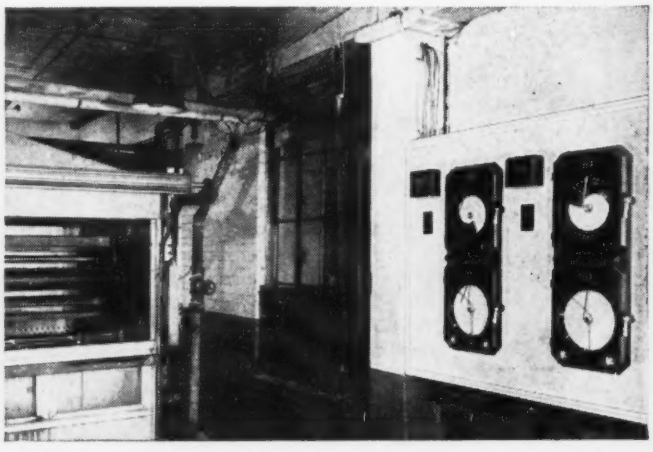
WHAT'S YOUR PROBLEM?



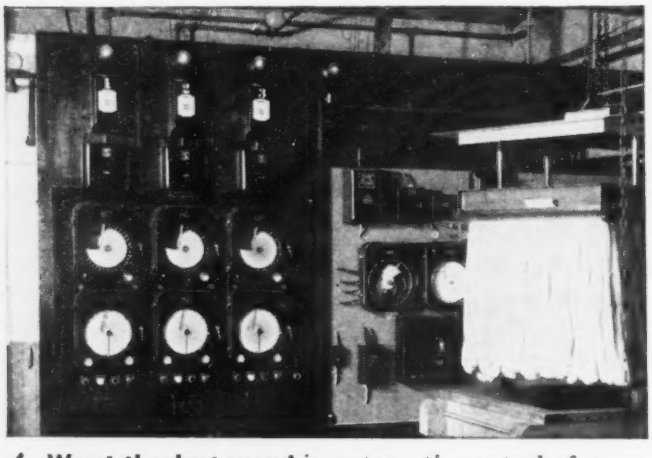
1 **Want to stop worrying** about temperature of raw stock in Franklin Process machines? Control it *automatically* with Taylor Fulscope Recording Temperature Controllers. We installed these years ago for a famous New England mill, and they're still going strong.



2 **Want to cook size** without overflowing or overboiling? Put in Taylor Fulscope *Time Schedule* Controllers. Once you have the ideal cooking schedule, you can reproduce it every time, with automatic control of time and temperature. All the operator has to do is load the kettle and push the button.



3 **Want to save labor** for more important jobs than watching temperatures on piece dye machines? Let Taylor Fulscope Time Schedule Controllers do it *automatically*. You'll find temperatures controlled to a degree not previously thought possible, and timing equally precise.



4 **Want the last word** in automatic control of yarn dyeing? This picture shows the latest Taylor setup contrasted with previous installation. One cam handles all schedules. Agitator motor always starts in reverse direction so hanks of yarn are unkinked immediately.

5 **Whatever your problem**—the tougher the better—we'd like the chance to work out a Taylor Automatic Control system for you. Send for your Taylor Field Engineer or write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

A

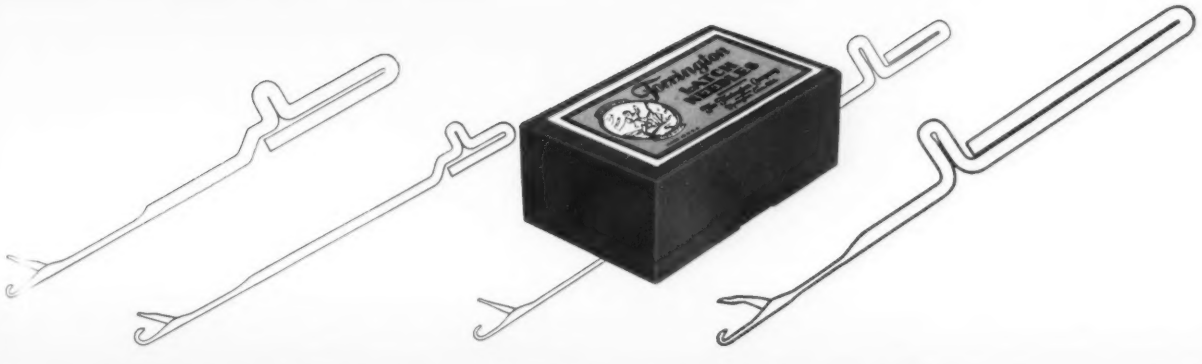
Warm

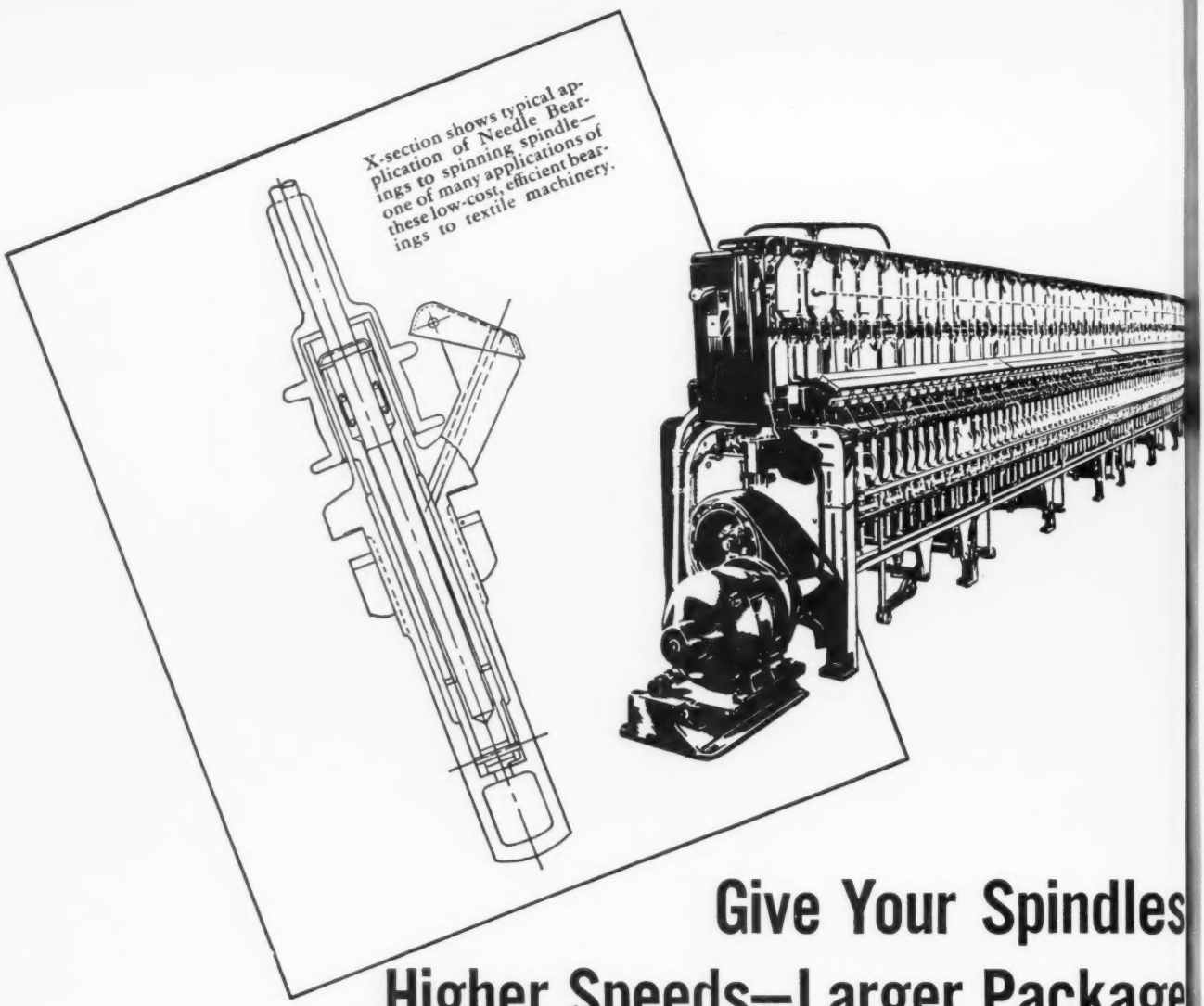
WELCOME

always awaits merchandise that stands out for the quality of its knitting—for fine knitting is a mark of true value. You can rely on the precision and accuracy of machine-made Torrington Needles to help you achieve and maintain that controlled quality which is the essence of fine knitting.

TORRINGTON
Latch Needles

THE TORRINGTON COMPANY
Torrington, Conn., U.S.A.
Established 1866
Branches: New York • Philadelphia • Chicago
Greensboro, N. C. • Boston • St. Louis
Toronto, Canada




X-section shows typical application of Needle Bearings to spinning spindle—one of many applications of these low-cost, efficient bearings to textile machinery.

Give Your Spindles Higher Speeds—Larger Package Capacities with Needle Bearings

Given the *anti-friction ease* of Torrington Needle Bearings, spinning spindles turn faster . . . handle heavier packages . . . operate on less power . . . require less "shut down" for maintenance . . . help turn in a more efficient and economical job.

That's because these compact, efficiently lubricated bearings are specifically engineered to carry heavy friction loads at high speeds . . . to help moving parts do maximum work for minimum cost in power and upkeep.

Whether you design, build or use textile machinery you should know how Torrington Needle Bearings can help give *you* a more profitable job. Our new Catalog 32 is packed with specific data on types, sizes and applications to many types of textile machinery. It is yours for the asking: write for your copy today.

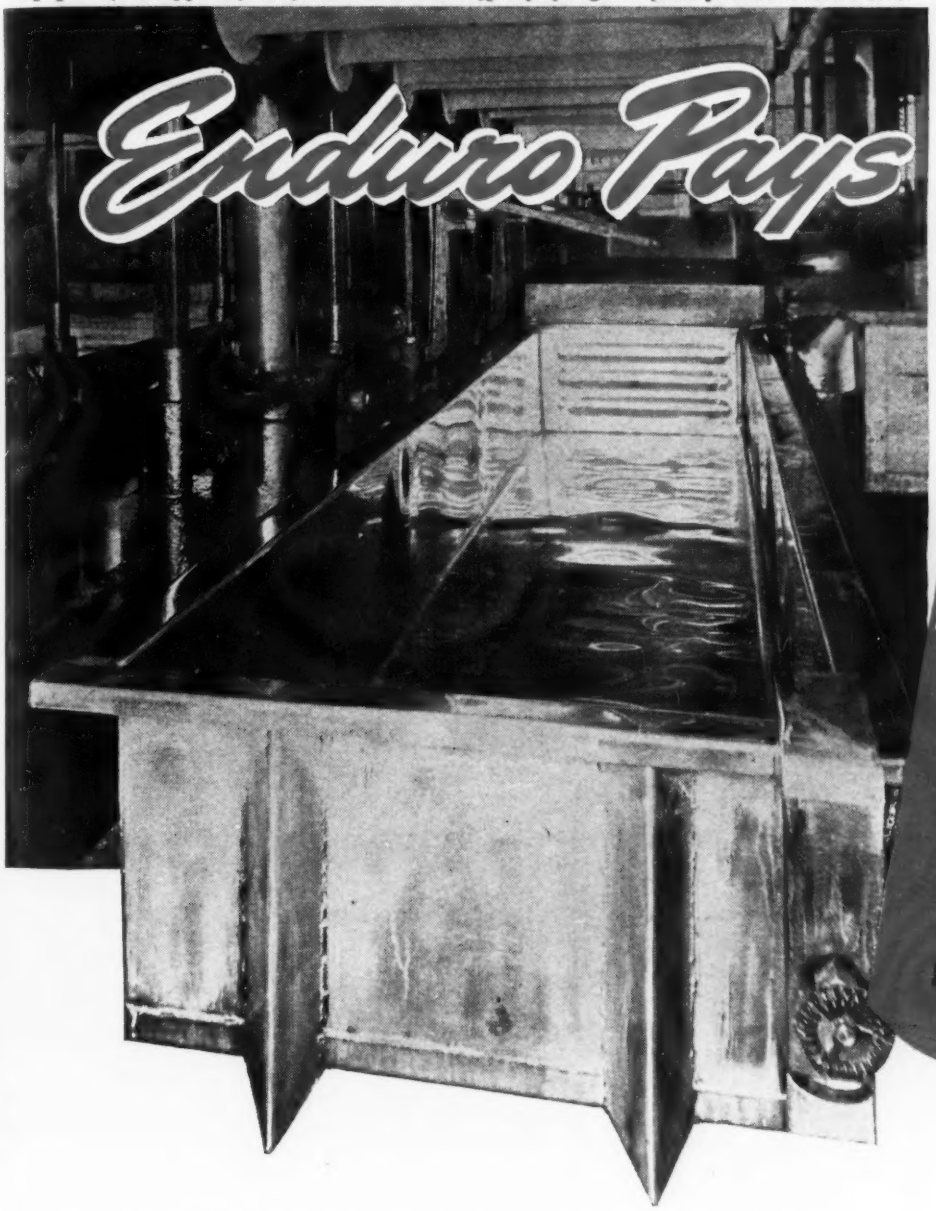
THE TORRINGTON COMPANY

TORRINGTON, CONN. • SOUTH BEND 21, IND.

New York Boston Philadelphia Detroit Cleveland
Seattle Chicago San Francisco Los Angeles Toronto
London, England

TORRINGTON NEEDLE BEARINGS

Textile industry applications for Republic ENDURO Stainless Steel include dry cans, tables, bleaching equipment, hosiery forms, reels, valves and various types of dyeing tanks, one of which is shown here.



in many ways

- Improved Employee Relations
- Easy to Clean
- Assures "True" Colors
- Non-Contaminating
- Strong—Long Lasting
- Resistant to Rust and Corrosion
- Easy to Fabricate
- Universal Acceptance
- Low Ultimate Cost

Republic ENDURO Stainless Steel—the metal that's clean and as easy to clean as glass—is the ideal material for textile processing equipment.

With ENDURO equipment, you can switch from dark to light shades without tedious scrubbing or boiling out of the dyeing vat. A simple flushing with warm water followed by wiping removes all trace of former color in a hurry . . . eliminates danger of color contamination from the preceding batch and assures true color.

And there is no need to worry either about the smooth, lustrous surface wearing away. Republic ENDURO is solid stainless steel throughout.

For immediate and effective savings in both replacement and maintenance costs, specify Republic ENDURO Stainless Steel for all future dyeing, bleaching and other textile equipment.

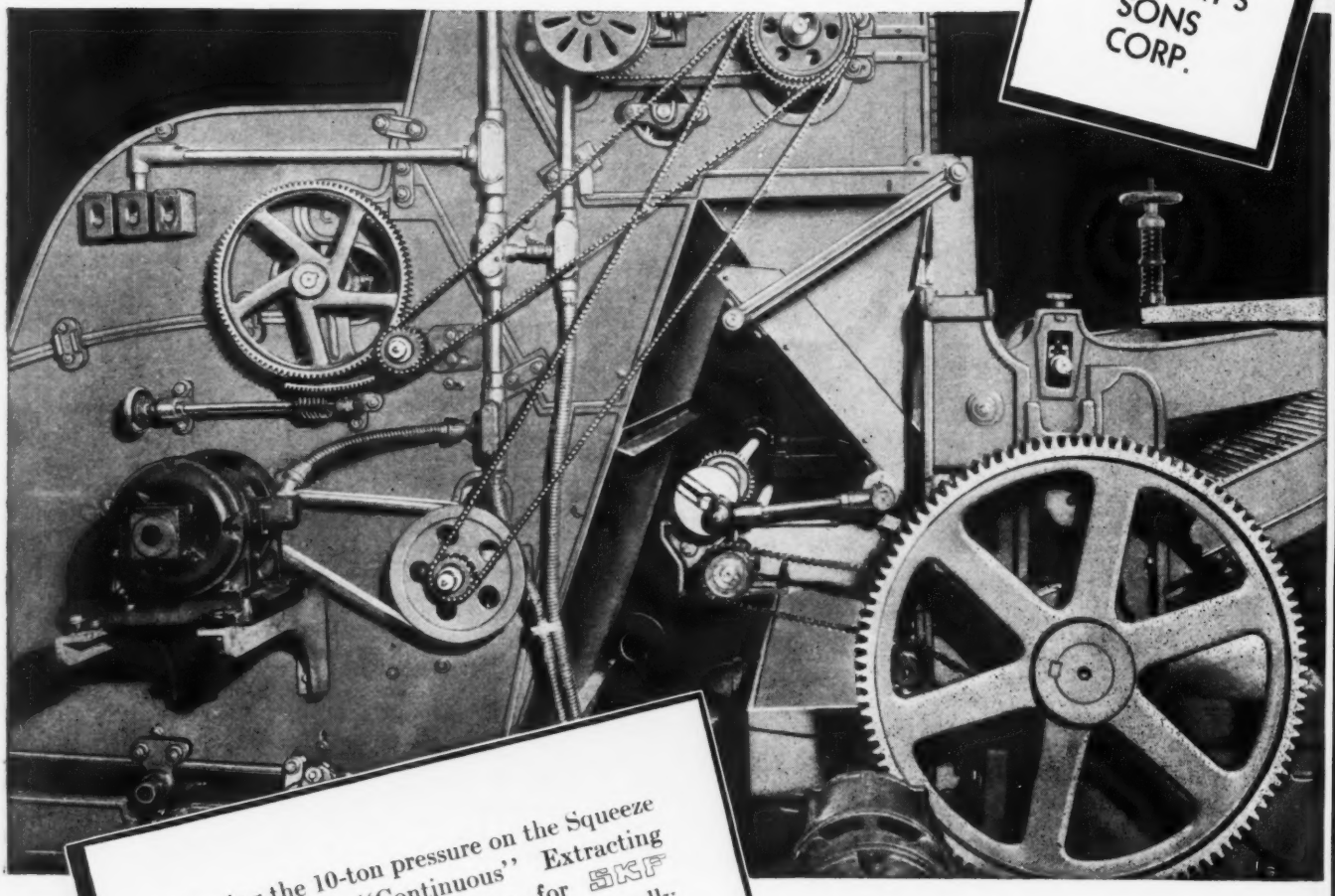
REPUBLIC STEEL CORPORATION
Alloy Steel Division • Massillon, Ohio
GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, New York

Republic
ENDURO STAINLESS STEEL
Reg. U. S. Pat. Off.

Other Republic Products include Carbon and Alloy Steels—Pipe, Sheets, Strip, Plates, Bars, Wire, Pig Iron, Bolts and Nuts, Tubing

SKF SPHERICAL ROLLER BEARINGS ON SQUEEZE ROLL JOURNALS

BUILT BY THE C. G. SARGENT'S SONS CORP.



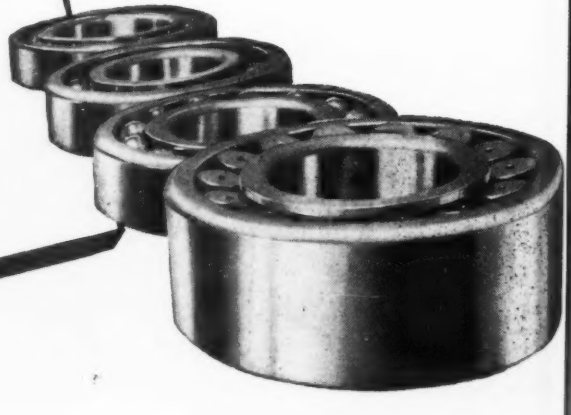
Carrying the 10-ton pressure on the Squeeze Rolls of this "Continuous" Extracting System is a simple matter for SKF Spherical Roller Bearings. They're ruggedly built for absorbing heavy loads continuously —and their high capacity is always available because their self-aligning characteristics compensate for shaft deflections, distortions or weave. They're easy to remove when roll repairs are necessary. They're low lubricant consumers—require no attention. They're the right bearings in the right places.

5906

SKF INDUSTRIES, INC., PHILA. 34, PA.

SKF

BALL AND ROLLER BEARINGS



The Purchasing Agent

—HE, TOO, HAS SERVED WELL

TOO frequently the accomplishments of Purchasing Agents and their staffs have been overlooked in discussions of American industrial might. In emphasizing production records, Purchasing achievements in providing raw materials often are omitted . . . in praising scientific and technical advances, the ingenuity of Purchasing men in locating and obtaining scarce products frequently is unnoticed.

Yes, through long hours of diligent, resourceful work, American industrial Purchasing Agents have turned in a superlative job. In paying tribute to them, Columbia renews its pledge of continued co-operation to its customers' Purchasing Agents and their staffs as they face today's new problems and responsibilities.

COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY • COLUMBIA CHEMICAL DIVISION

GRANT BUILDING, PITTSBURGH 19, PENNSYLVANIA

Chicago • Boston • St. Louis • Pittsburgh • New York • Cincinnati • Cleveland • Philadelphia • Minneapolis • Charlotte • San Francisco

COLUMBIA ESSENTIAL INDUSTRIAL CHEMICALS

Soda Ash • Caustic Soda • Sodium Bicarbonate • Liquid Chlorine • Silene EF (Hydrated Calcium Silicate) • Calcium Chloride • Soda Briquettes
Modified Sodas • Caustic Ash • Phosflake • Calcene T (Precipitated Calcium Carbonate) • Pittchlor

Better Trucks for YOUR Business!

"Thanks to Ford for a Truck That Can Take It . . . and for Real Dealer Service!"

Whether you operate your own fleet, or buy your trucking by contract, the economy, reliability and endurance for which Ford Trucks are famous can have a definite bearing on the profits of your business.

Mr. J. C. Howard, contract carrier, of East Chattanooga, Tenn., writes:

"I sincerely believe the biggest dollar values in transportation are Ford products. I have used Ford Trucks exclusively for years, and have been able to keep my trucks in service despite the wear and tear of over-the-road hauling. So thanks to Ford for a product that can take it and for dealers who strive to render a high standard of service."

The new Ford Trucks being built today are still more economical, still more reliable and enduring, than those which have served American industry so well for years. Call your friendly Ford dealer and tell him you'd like to know the full facts.

Ford

ADVANCED ENGINEERING IN NEW FORD TRUCKS

More Economy and Endurance
Easier Servicing

A STILL GREATER 100 HP V-8 ENGINE with NEW Ford steel-cored Silvaloy rod bearings, more enduring than ever in severe service • NEW aluminum alloy cam-ground 4-ring pistons for oil economy • BIGGER, more efficient oil pump and IMPROVED rear bearing oil seal • NEW longer-lived valve springs • NEW improvements in cooling • NEW efficiency in ignition • in carburetion • in lubrication • in ease and economy of servicing operations • And available in all truck chassis except C.O.E. units — the rugged, thrifty 90 HP FORD SIX-CYLINDER ENGINE, with many important advancements.

FORD CHASSIS ADVANTAGES: Easy accessibility for low-cost maintenance • Universal service facilities • Tough, forged front axles • Extra-sturdy rear axles with pinion straddle-mounted on 3 large roller bearings, ¾-floating type in light duty units, full-floating in all others • 3 axle ratios available (2 in 1-ton unit) • 2-speed axle available in heavy duty units at extra cost • Powerful hydraulic brakes, large drums, cast braking surfaces • Rugged 4-speed transmission with NEW internal reverse lock optional at extra cost on light duty units, standard on all others.

FORD TRUCKS

MORE FORD TRUCKS ON THE ROAD • ON MORE JOBS • FOR MORE GOOD REASONS

CROUSE-HINDS

Industrial Lighting Fixtures

The illustrations show a representative selection from the hundreds of different CROUSE-HINDS lighting fixtures—each designed for its own particular purpose.

No. 3
of a series of advertisements which demonstrate that CROUSE-HINDS "complete line" means much more than just a range of sizes—there is a wide variety of highly specialized types in each classification.

Type C Condulet with No. 1706 Lamp Receptacle

Type GRF Watertight Pilot Light Condulet

Type FS Lighting Fixture *for flush mounting in walls to light steps, floors, walks and gardens*

Type FS Condulet with Pilot Light, Switch, and Lamp Receptacle

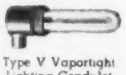
Type G Condulet with No. HS56 Lamp Receptacle

Type EGP Explosion-Proof Pilot Light Condulet *for panel mounting*

Type GRF Condulet with Lamp Receptacle

Type GSC Condulet with Bracket Lighting Fixture

Type MB Two-Gang Watertight Marine Pilot Light Condulet


Type V Vaportight Lighting Condulet *for mounting on machines*

Type EFS Explosion-Proof Condulet with Double Pilot Light

Type GS Condulet with Shock-Absorbing Lamp Receptacle *for use on machinery*

Type VDA Vaportight Observation Light Condulet *for mounting in vats*

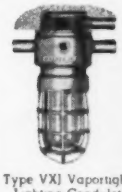
Type LMKB Lighting Condulet

Type LMG Lighting Condulet

Type WV Vaportight Lighting Condulet with Fresnel Lens

Type VPH Vaportight Indirect Lighting Condulet

Type VR Vaportight Lighting Condulet *for mounting on a hand rail*


Type VXJ Vaportight Lighting Condulet *for making extensions from concealed conduit wiring*

Type V Vaportight Heavy Duty Lighting Condulet with Shatterproof Globe *for use in the food industry*

Type C Condulet with Type ARC Vaportight Lighting Fixture

Type VXHA Vaportight Lighting Condulet with Flush Hubs

Type VDB Vaportight Lighting Fixture Condulet with Dome Reflector *500-Watt*

Type EVS Explosion-Proof Portable Lamp

Type RMC Watertight Marine Lighting Fixture

Type MLC Watertight Marine Lighting Condulet Shock-Absorbing Receptacle

Type MLC Watertight Marine Lighting Condulet

Type DLA Dust-Tight Lighting Fixture Condulet with Flat Cone Reflector

Type VC Vaportight Lighting Fixture Condulet

Type DLA Dust-Tight Lighting Fixture Condulet *500-Watt*

Type LPH Safety Hand Lamp

Type EVG Explosion-Proof Lighting Condulet *for gasoline pumps*

Type EVH Explosion Proof Hand Lamp

Type VS91 Vaportight Hand Lamp

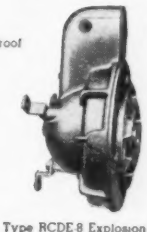
Type RCD-8 Vaportight Lighting Fixture *for wall mounting*

Type EVA Explosion-Proof Lighting Fixture Condulet

Type EVA Explosion-Proof Lighting Fixture Condulet *500 Watt*

Type HNDS Condulet with Lighted Sign

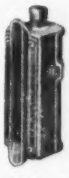
Type EVA Explosion-Proof Pilot Light Condulet


Type RCDE-8 Explosion-Proof Pit Light

Type RCD-8 Vaportight Lighting Fixture *for floor mounting*

Type VLG Vaportight Gauge Lighting Condulet *Fluorescent*

Type EVA Explosion Proof Sign Light Condulet


Type LG Gauge Lamp

Type VFC Vaportight Gauge Lighting Condulet

Type VFC Vaportight Gauge Lighting Condulet

Type ELG Explosion Proof Gauge Lighting Condulet

Type ELG Explosion Proof Gauge Lighting Condulet *Fluorescent*

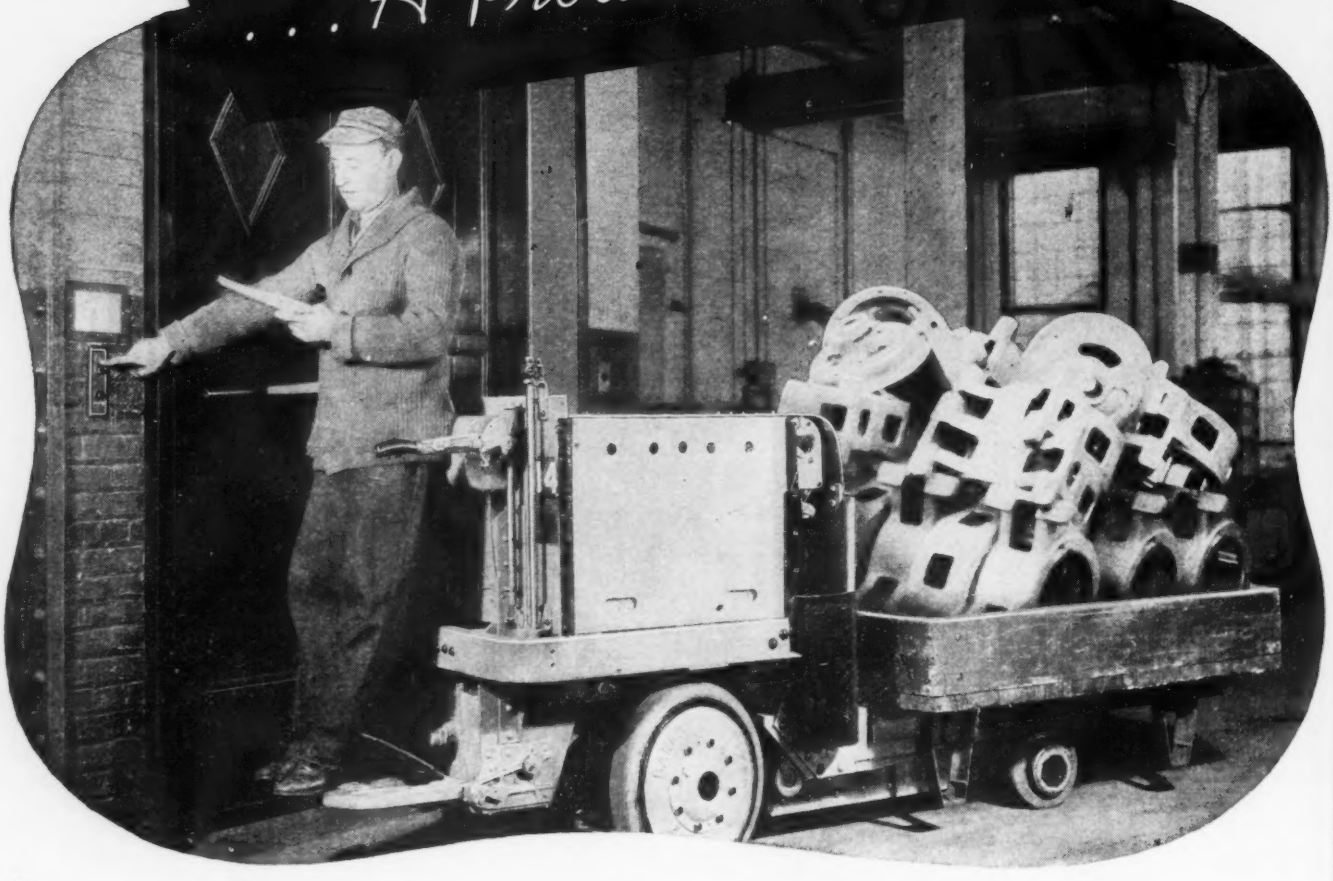
Complete listings of each type are in Condulet Catalog No. 2500 or in supplementary bulletins.

CROUSE-HINDS COMPANY
Syracuse 1, N. Y., U.S.A.

Offices: Birmingham — Boston — Buffalo — Chicago — Cincinnati — Cleveland — Dallas — Denver — Detroit — Houston — Kansas City — Los Angeles — Milwaukee — Minneapolis New York — Philadelphia — Pittsburgh — San Francisco — Seattle — St. Louis — Washington. *Resident Product Engineers:* Albany — Atlanta — Charlotte
CROUSE-HINDS COMPANY OF CANADA, LTD., *Main Office and Plant:* TORONTO, ONT.

CONDULETS · TRAFFIC SIGNALS · AIRPORT LIGHTING · FLOODLIGHTS

OTIS FREIGHT ELEVATORS
. . . A Production Asset



The efficiency of tomorrow's production will be influenced by the handling capacity of freight elevators.

The smooth dependable performance of OTIS Freight Elevators is an assurance of more tonnage hauled . . . more time saved.

OTIS Freight Elevators can be arranged for dispatching to predetermined floors — to fit exactly the requirements of any cycle of operations.

Ask your OTIS representative about Collective Control for high-speed freight elevators and Double Button Control for moderate-speed freight elevators.

For the finest in vertical transportation tomorrow, call your OTIS representative today.

Otis **ELEVATOR COMPANY**

OFFICES IN ALL PRINCIPAL CITIES

AGAIN you can get

N-100

Houghton's concentrated detergent – same pre-war quality

Detergents have been scarce since war needs restricted the supply of basic ingredients. But now the product which Houghton introduced so successfully some six years ago is again available to textile mills.

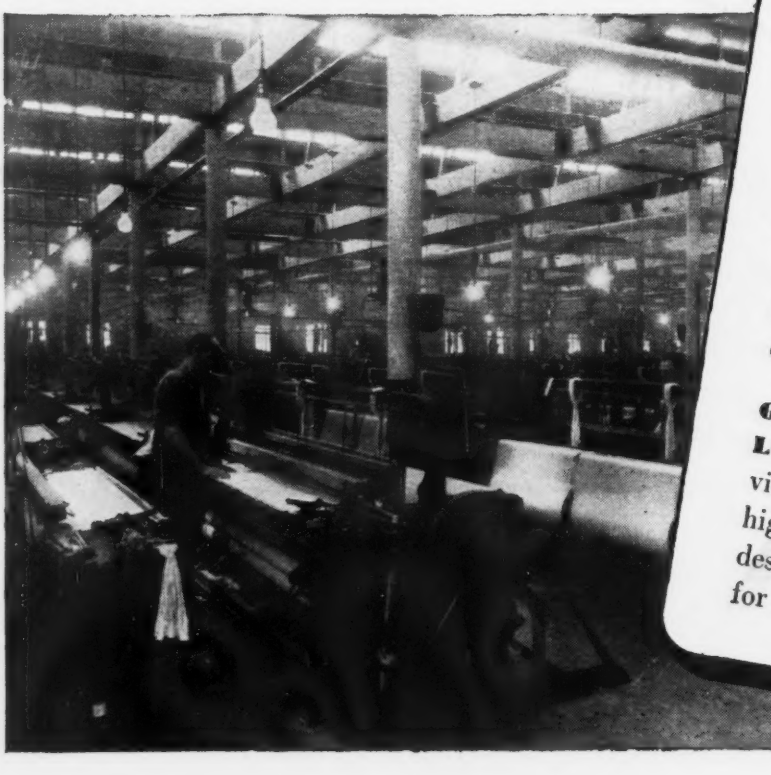
It is N-100, a concentrated synthetic detergent in liquid form, having a wide range of uses, and operating well in neutral, mild acid or alkaline solutions. N-100 will be found to perform outstandingly in kier boiling operations . . . for scouring rayon or cotton hosiery . . . as a penetrant or wetting agent . . . as a dye-bath assistant.

Its high concentration means economy. For prices write now. E. F. HOUGHTON & CO., Philadelphia or Charlotte.

HOUGHTON'S TEXTILE PROCESSING PRODUCTS

WARP SIZES . . . SOFTENERS . . . RAYON OILS . . . WETTING AGENTS . . . WOOL OILS

SINCLAIR has the Answers to Your Lubrication Problems



FOR EXAMPLE:

LOOM LUBRICATION TROUBLES such as drip and ooze from bearings, creep, splash and fabric staining are eliminated by the use of No-Drip No. 12. This is one of the Sinclair lubricants specially compounded for qualities which make it extremely retentive in leaky comb boxes and highly adhesive on worn cam and eccentric surfaces.

GENERAL MACHINE LUBRICATION is efficiently provided by Commander Oil B, a highly refined straight mineral oil designed to be fully dependable for general purposes.

• **By following the Sinclair Textile Flow Chart and Lubrication Guide, mill operators are able to simplify lubricant inventory, and dispensing and storing of oils and greases. Chance of error in application is eliminated and savings in power, down time and replacement costs can be effected. The chart will show you a specially designed Sinclair Lubricant for every textile machine requirement. Write for a copy, today. It's free.**

SINCLAIR TEXTILE LUBRICANTS

FOR FULL INFORMATION OR LUBRICATION COUNSEL WRITE SINCLAIR REFINING COMPANY, 630 FIFTH AVENUE, NEW YORK 20, N. Y.

CID ALIZARINE ★ ACID ANTHRACENE ★ ALGOL ★ ALGOSOL ★ ALIZARINE

LPHANOL ★ ANTHRACENE ★ ANTHRALAN ★ AZO ★ BENZO ★ BENZO FAST

OPPER ★ BENZO VISCOSE ★ BENZOFORM ★ BRILLIANT INDIGO ★ CELLITAZOL

ELLITON ★ CHROMOGENE ★ CHROMOXANE ★ DIAMINE ★ DIAMINOGEN

IAMOND ★ DIANIL ★ DIA[illegible]NE ★ FAST ACID ★ FAST COLOR

ALTS ★ [illegible] COLOR [illegible] FAST LIGHT ★ FAST SULPHON ★ FASTUSOL

LAVAZ[illegible] ★ GALLO ★ GENSA ★ GENTEX ★ [illegible] HANSA

ELINDON ★ HELIO ★ HELIOGEN ★ HYDRON [illegible] INDANTHREN

NDO CARBON ★ INDO[illegible] ★ [illegible] ★ JANUS [illegible]ATIGEN ★ LITHOL

ETANIL ★ METHYLENE [illegible]LING ★ MONOCHROME ★ NAPHTOLS ★ NAPH-

ALINE ★ NAPHTYLAMINE ★ NEOTOLYL ★ NEPTUNE ★ NIGROSINE ★ OXAMINE

XYDIAMINE ★ OXYDIAMINOGEN ★ PALATINE FAST ★ PARA ★ PHENAMINE

HENOFORM ★ PHLOXINE ★ PHOSPHINE ★ PLUTO ★ PLUTOFORM ★ PYRAMINE

APID FAST ★ RAPIDOGEN ★ RAPIDAZOL ★ RESORCINE ★ RHODAMINE

HODULINE ★ SAFRANINE ★ STILBENE ★ SOLAR ★ SUDAN ★ SULPHON ★ SUPRA

IGHT ★ SUPRAMINE ★ SUPRANOL ★ TARTRAZINE ★ THIAZINE ★ THIAZOL

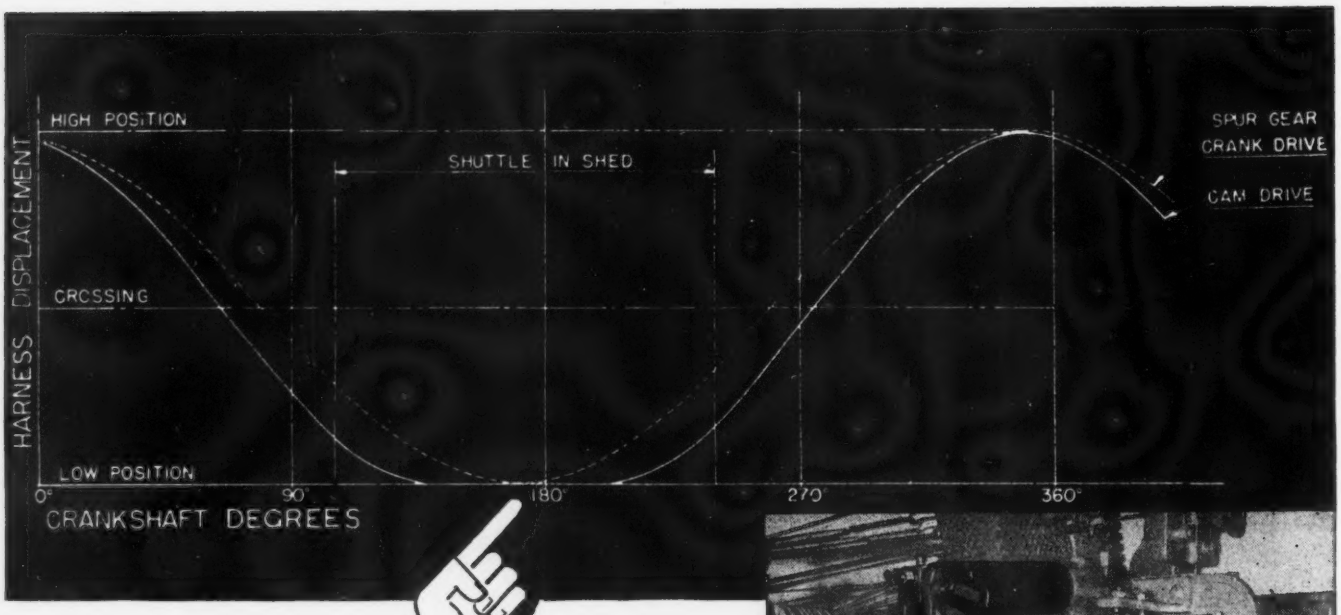
OLUYLENE ★ VARIAMINE ★ VICTORIA ★ VULCAN FAST ★ WOOL FAST ★ ZAMBESI

Quality Dyestuffs

GENERAL DYESTUFF CORPORATION

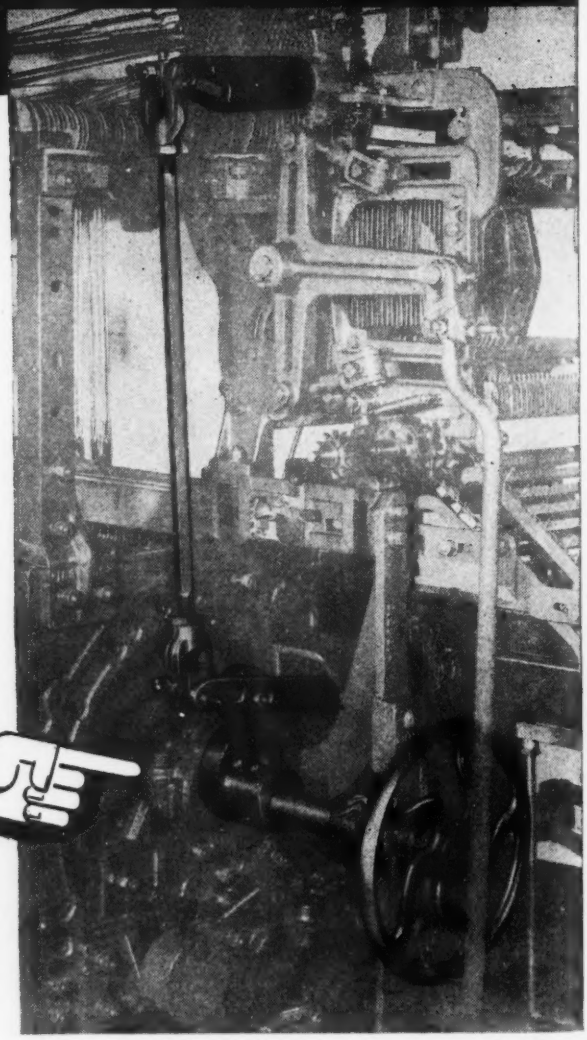
FOUR-THIRTY-FIVE HUDSON STREET · NEW YORK · N. Y.

BOSTON · PROVIDENCE · PHILADELPHIA · CHICAGO · CHARLOTTE · SAN FRANCISCO



HERE'S WHY

C & K's LENO MOTION was changed from Crank-Drive to CAM-DRIVE



Here's another "inside story" on the tireless work of C&K engineers, all directed toward making tomorrow's loom-motions and parts *better than today's best:*

In weaving gauze, netting, curtains and other open cotton fabrics, the warp-ends (carried by the leno jumper harnesses) *must be kept down*—out of the way of the shuttle—as long as possible. For the longer they're kept out of the way, the less the liability of warp-breakage.

The conventional spur-gear-crank drive was effective. Yet studies showed the crank had a tendency to start the warp rising in the path of the shuttle a fraction of a second too soon.

So the actuation was changed to a cam-operated mechanism, with the results shown by the two curves above. The solid, lower curve plainly shows that the jumper warp-ends are down out of the way for a longer period of time when they are cam-operated. And the shuttle, coming through, has a cleaner shed.

So with C&K's present Leno Motion, warp-breakage in lenos is now at an all-time low, while output and quality are higher.

In fact, *all* motions on *all* C&K Looms are under constant study by seasoned men who know how to employ *or evolve* the most advanced methods and equipment to determine how—within inconceivably close time-limits—new ways may be developed to weave *your* type of fabric better, faster, at lower cost.

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.
PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.

between Today's Knowledge . . .
and Tomorrow's Looms

A New kind of

DIGEST FOR MOTOR BUYERS

IT'S DIFFERENT because it doesn't attempt to give you a lot of general technical data about motors and motor selection.

This eight-page file-size folder assumes that you know what type of motor you need. It was designed to tell you, quickly, about STAR as a source of motors and generators. It shows what sizes and types are built by Star. It describes Star's way of working with customers . . . how Star becomes their "Motor Department". It gives facts about Star's pioneer achievements in motor design. It names many hard-to-satisfy motor buyers who are long-time customers.

To bring your file on leading motor sources up-to-date . . . to learn why so many prominent concerns are turning to Star Motors to power their products and production . . . attach the coupon below to your letterhead. It will also register you to receive the Complete Catalog which is in preparation.

STAR (1/8-200 HP) MOTORS
. . . to power the products of tomorrow . . .
STAR ELECTRIC MOTOR COMPANY
210 BLOOMFIELD AVENUE • BLOOMFIELD, N. J
SEND FOR YOUR COPY

STAR MOTORS

POWER PACKAGED AS YOU NEED IT

STAR ELECTRIC MOTOR CO.,
212 Bloomfield Avenue
Bloomfield, N. J.

☐ Send 8-page bulletin about Star Motors

☐ Put me on list to receive Complete Catalog

Name and position .....

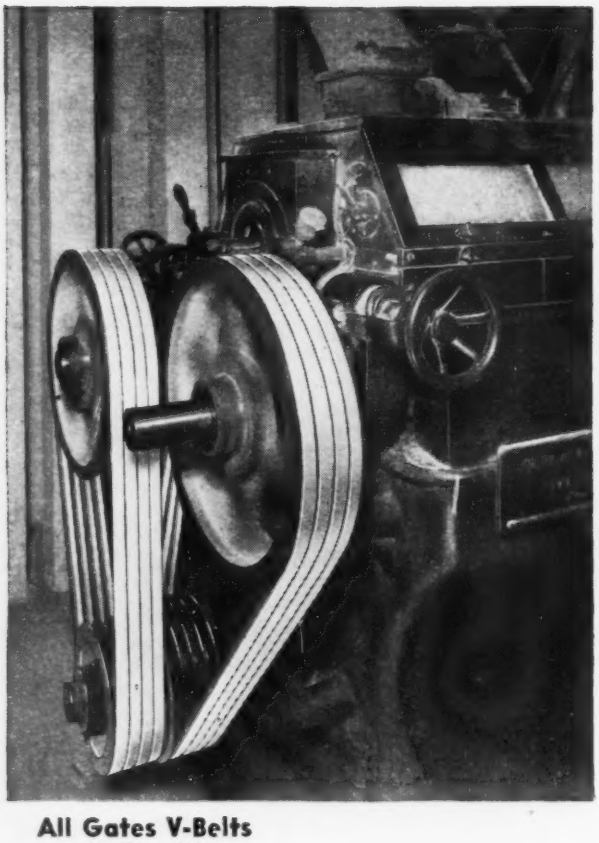
Company .....

Address .....

.....

The reason for this fact is worth knowing

Your **STANDARD** GATES VULCO ROPES are TODAY out-performing **ANY** V-Belts **EVER** Built Before!



All Gates V-Belts are Built with *The Patented* CONCAVE SIDE

During the war, our Army tanks, tractors and self-propelled big guns required, for *combat* service, V-belts built to performance standards never dreamed of before. Gates developed these greatly superior V-belts through intensified, specialized research — and here is what this NOW means to you:—

Here is the reason

● **Every improvement developed by Gates for these Army V-belts has also been added, day by day, to the quality of the standard Gates Vulco Ropes which have been delivered to you.**

Here is one rare instance in which you have received *immediately* the full advantage of war-time improvements developed primarily for military use. Ordinarily, *you* have to wait. But in the case of Gates V-belts, everyone recognized the vital role they played in maintaining the production that proved so essential in winning the war.

That is why Gates has been able to pass on to you, day by day, every V-belt improvement developed for our armed forces during the war — and that is why your *Standard* Gates Vulco Ropes are today outperforming *any* V-belts ever built before!

Gates

THE MARK OF SPECIALIZED RESEARCH

THE GATES RUBBER COMPANY

Engineering Offices and Jobber Stocks in All Large Industrial Centers

4511

GATES VULCO ROPE DRIVES

CHICAGO 6, ILL., 549 West Washington — DALLAS 2, TEXAS, 1710 N. Market Street — ATLANTA 3, GA., 521-23 C & S National Bank Building
CHARLOTTE 2, N. CAROLINA, 605 West Fifth St. — NEW YORK CITY 3, 215-219 Fourth Ave. — DENVER 17, COLO., 999 South Broadway
GREENVILLE, S. CAROLINA, 108 W. Washington Street — BIRMINGHAM 3, ALA., 801-2 Liberty National Life Bldg.

Koda*

—a continuous-filament yarn preferred by weavers and knitters for its uniform smooth-running qualities—identified with many of the leading fashion fabrics of today—and, by textile men looking ahead, with the finer fabrics of tomorrow.

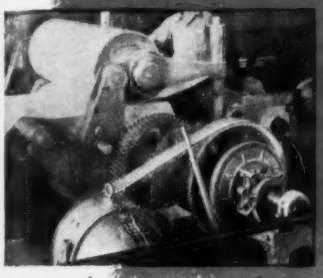
***EASTMAN ACETATE RAYON**

For further information about KODA consult A. M. TENNEY ASSOCIATES, 10 East 40th Street, New York City 16, sales representatives for Tennessee Eastman Corporation, Kingsport, Tennessee, subsidiary of the Eastman Kodak Co.

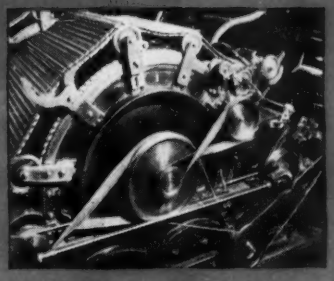
Tons upon Tons of Experience
... from Sheet Lead
... to Apparatus
... to Acid Recovery Plants
Making acid behave—that's National Lead's long suit.
In every field handling corrosive chemicals—in thousands of installations—National Lead has accumulated a storehouse of knowledge that means it will pay you to Go "National" for Lead.
FOR EXAMPLE:
1. More than 200 complete suifuric acid recovery plants have been built for industry—from plan to finished structure...
2. Acid-handling equipment of all kinds has been designed ... including all-lead, lead lined or covered valves, pipe, fittings ...and special homogeneous lead-bonded apparatus fabricated to specification ...
3. National Lead pioneered Tellurium Lead for pipe and sheet, giving improved corrosion resistance at elevated temperatures and greater ability to withstand vibratory stress ... and of course, has long furnished sheet, pipe, coils and fittings of chemical lead and of antimonial lead.
No matter what your needs, remember ... Go "National" for Lead.
Go "National" for Lead
NATIONAL LEAD COMPANY
111 Broadway, New York 6, N. Y.
Offices and Plants in Principal Cities and Canada
Mills-Packard chamber plant of U. S. Phosphoric Products Division, Tennessee Corp., built after Pearl Harbor to help meet the urgent need for wartime acid. The O. G. Kelly Company of Boston handled the lead erection and burning. 850 tons of lead were required for the 20 chambers.

There's a Gilmer Belt for every textile mill drive

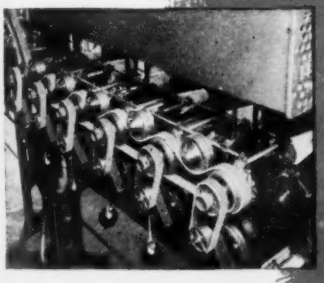
Gilmer BELTS



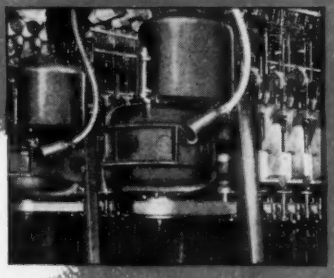
GILMER V-BELTS—FHP and Multiple. Space saving, silent, shock absorbing. Built to lock in the grooves with a non-slip grip. In standard and special sizes.



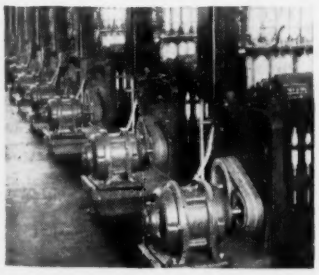
GILMER KABLE KORD LICKERIN BELTS. A contactor and power belt in one. Noted for exceptional grip, low stretch, small slippage and high tensile strength. Stand up long in service.



GILMER HEVALOID GAINER BELTS. Made under Hevaloid patent with Neoprene compound, which provides a high coefficient of friction. Resist oil, heat, stretch and slippage.

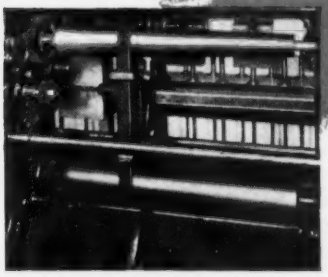


GILMER ENDLESS CORD SPINNER BELTS. Built with continuous cord construction to assure smooth and uniform spindle speed. A belt of high tensile strength, low stretch and long life.



GILMER KABLE KORD BELTS AND BELTING. Meet practically every flat, power belt need. Endless and non-endless, "two-belts-in-one"—contactor and power. Tight gripping, hard pulling, long wearing.

GILMER CONE DRIVE BELTS. Reinforced multiple jacket edges and rubber-locked internal structure check wear and unraveling from the action of shifter forks. Assure longer life in the toughest service.



Gilmer *specializes* in belts . . . is the oldest firm of rubber-fabric belt makers . . . has an intimate understanding of textile mill belting needs, gained through long and close association with the industry. And in the extensive Gilmer line there is the *right* belt for each of those needs.

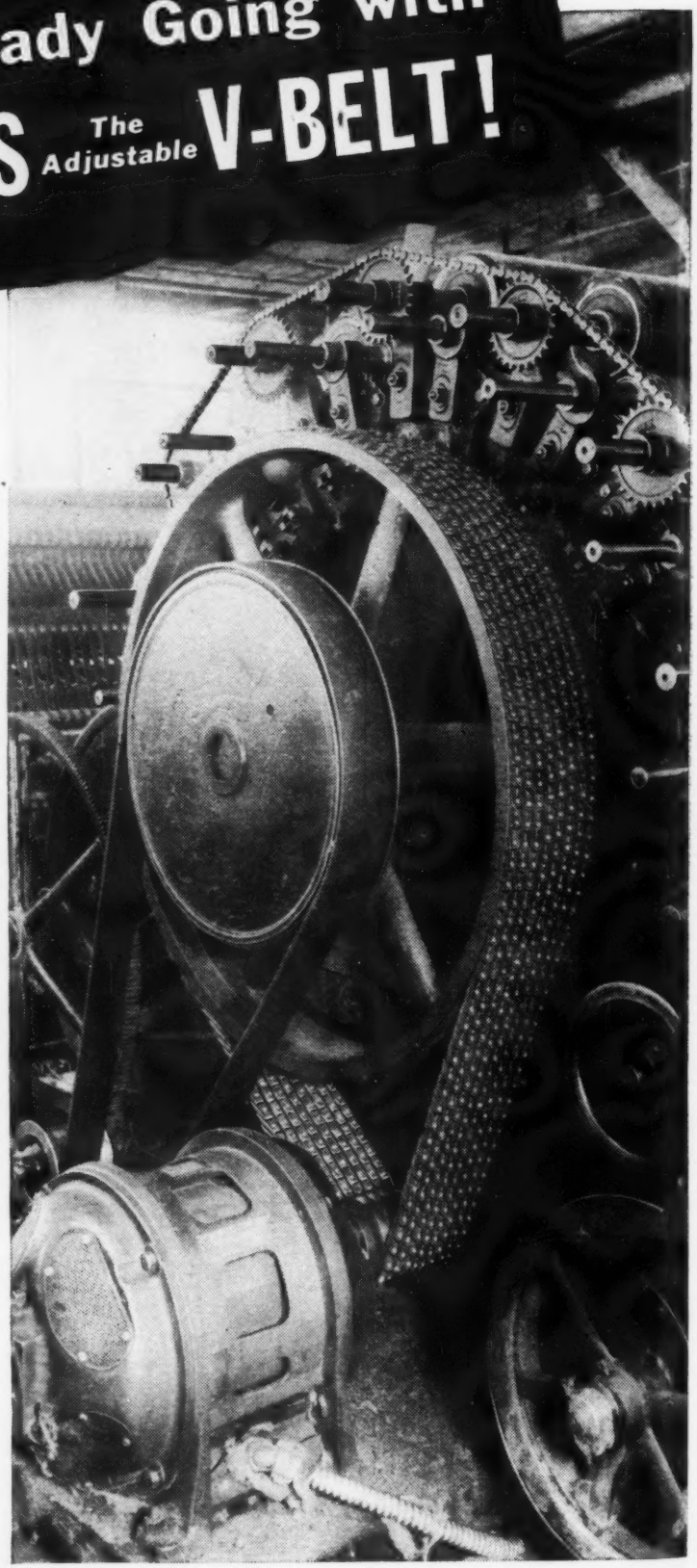
Is there a drive in your mill that is not performing with maximum efficiency? Get in touch with Gilmer engineers. They will be glad to help you find and remedy the condition. They are available for consultation without charge or obligation. Why not write to them today!

OTHER GILMER BELTS include Endless Round Belts for carding machines, Endless Flat Belts for spinning frames, etc. All are completely described in the handbook, "Gilmer Belts for the Textile Industry"—a book that simplifies the specifying of belts for a large majority of drives. Write for your FREE copy today.

★ ★ ★ **L. H. GILMER COMPANY** ★ ★ ★

TACONY, PHILADELPHIA 35, PA. • DIVISION OF UNITED STATES RUBBER COMPANY

It's ALWAYS Smooth Starting and Steady Going with VEELOS The Adjustable V-BELT!



THIS carding machine requires a drive that starts smoothly and operates without vibration. The textile manufacturer who operates the machine wanted to make sure he got just that kind of drive—so he specified Veelos—the adjustable V-belt.

Result? The Veelos V-belt has been in service since December, 1941—when it replaced a chain drive—and has operated 24 hours a day, six days a week ever since. You'll agree that by this time the operator is in a position to know if belt service is satisfactory. What does he say? "The performance of this Veelos V-belt has been excellent," states the firm's Vice President. "We are also pleased with the Veelos V-belts we use on our line shaft drives."

You, too, can be sure of smooth starting and steady going with Veelos because:

Veelos Tension Control Ends Vibration . . . Protects Belts and Bearings. Control of tension—simply by removing links—on each strand of Veelos provides *uniform,* controlled tension in the entire drive *at all times.*

This is only one of 12 exclusive Veelos advantages—advantages that have won for Veelos approval in every type of industry—including yours! Write today for your free copy of the complete Veelos catalog.

MANHEIM MANUFACTURING & BELTING CO.
MANHEIM, PA.

VEELOS
THE LINK
V-BELT

Adjustable to any Length
Adaptable to any Drive

LINK CONSTRUCTION UPS PRODUCTION

INTERNATIONAL DETROLA CORPORATION
DETROLA RADIO DIVISION
BEARD AVENUE AT CHATFIELD - DETROIT 9, MICHIGAN
August 27, 1945
IN REPLYING REFER TO:
U. S. Gutta Percha Paint Company
Providence, Rhode Island
Gentlemen:
We are experiencing excellent results in the use of BARRELED SUNLIGHT INTERIOR WHITES in finishing the walls and ceilings of work areas in our radio electronics plant in Detroit, and thought you might be interested in hearing about our experience with your products.
Our interior plant design creates an efficiency in production and a pleasing effect on employee morale, utilizing white walls and ceilings with color confined to the dado areas. BARRELED SUNLIGHT INTERIOR WHITES have proven thoroughly practical from the maintenance application standpoint, and help to create both the atmosphere and the good seeing conditions we have sought from the repainting of these interior surfaces.
Very truly yours,
ALTON J. SCHICK
Plant Engineer
AJS:mc
DETROLA
USES
WHITE PAINT
TO HELP CREATE
GOOD SEEING
CONDITIONS
Color
for Industry

LIKE MANY other manufacturers making precision products, International Detrola Corporation recognizes the fact that efficient production depends very largely on good seeing conditions.

As its letter herewith testifies, this company has found that WHITE ceilings and walls, working as partners with a good lighting system, give the best seeing conditions obtainable.

A paint of lasting whiteness is best for plant ceilings and walls because it reflects more light than paint of any other color. Furthermore, it *distributes* light and brightness evenly throughout the working area. Dark shadows and glare, which result ONLY when light is NOT properly distributed, are eliminated.

For further data on the importance of light and paint to plant efficiency, send for a free copy of "Color for Industry" TODAY.

DATE.....

U. S. GUTTA PERCHA PAINT CO.
20-K Dudley St., Providence, R. I.

Please send us, without charge or obligation, a copy of your 16-page illustrated booklet, entitled "Color for Industry".

COMPANY.....

STREET AND NUMBER.....

CITY..... STATE.....

ATTENTION.....

TITLE.....

BARRELED SUNLIGHT

SPECIALISTS FOR NEARLY FIFTY YEARS IN MAINTENANCE PAINTS FOR INDUSTRY

Powell AMPCO Alloy VALVES

pioneers again!

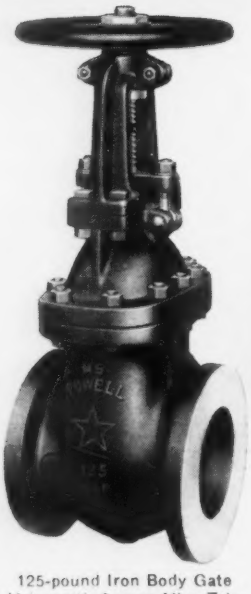
Ampco Alloys are a group of super long-wearing alloys of Aluminum Bronze developed exclusively by Ampco Metal, Inc.

The new POWELL Line of Ampco Alloy Valves are made from patterns of special design. These include Globe, Gate, Check, Y, Relief and Flush Bottom Tank Valves, Cocks and Liquid Level Gauges.

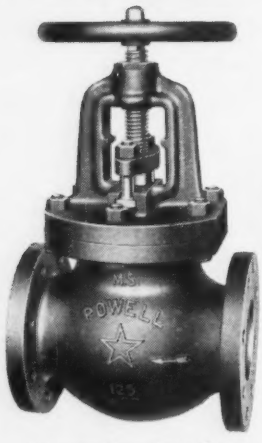
Ampco Alloys are especially valuable to the chemical and refining industries, not only for their corrosion resistant qualities, but because of their resistance to abrasion and their ability to withstand much higher temperatures than standard bronzes and brasses which have top temperature limits of about 500 F to 550 F. Also available are Powell Iron Body and Steel Valves in which the trim, or working parts, such as stems, seats, wedges and discs are made of Ampco Alloys.

Powell Engineers will be glad to advise you on applications of Ampco Alloy Valves. Special bulletin on request.

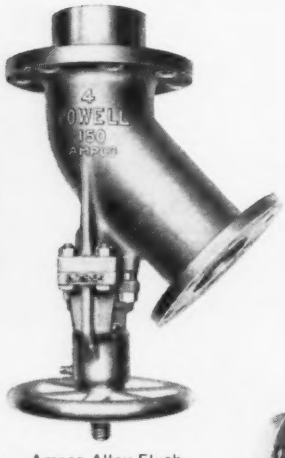
The Wm. Powell Co., Cincinnati 22, Ohio



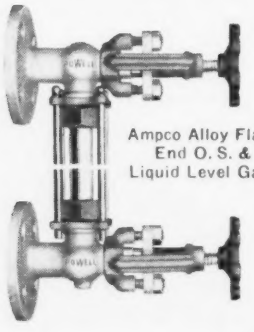
125-pound Iron Body Gate Valve with Ampco Alloy Trim.



125-pound Iron Body Globe Valve with Ampco Alloy Trim.

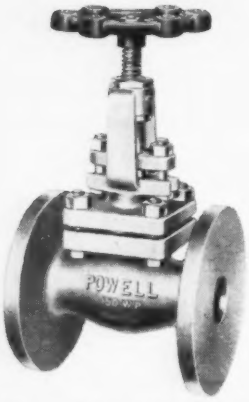


Ampco Alloy Flush Bottom Tank Valve.

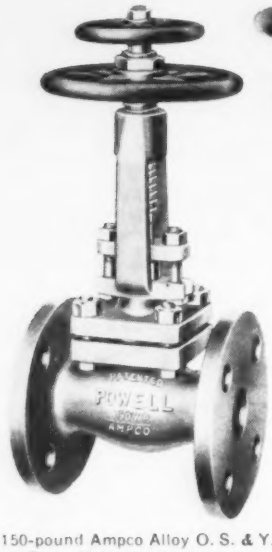


Ampco Alloy Flanged End O. S. & Y. Liquid Level Gauge

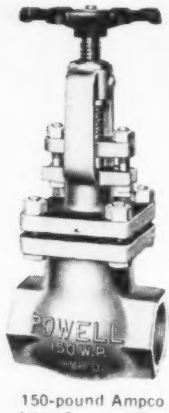
200-pound Ampco Alloy Screwed End Gate Valve.



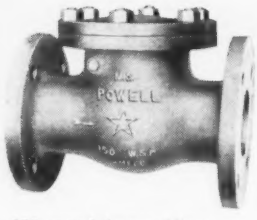
150-pound Ampco Alloy Flanged End O. S. & Y. Globe Valve.



150-pound Ampco Alloy O. S. & Y. Globe Valve, equipped with Powell Patented Seat Wiper.

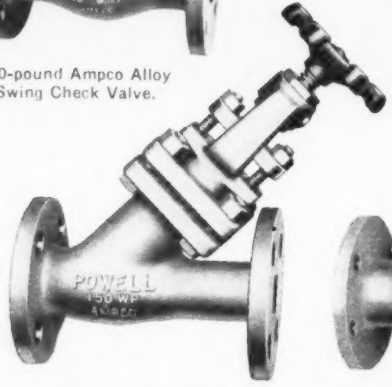


150-pound Ampco Alloy Screwed End O. S. & Y. Gate Valve.

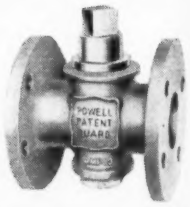


150-pound Ampco Alloy Swing Check Valve.

Ampco Alloy Flanged End Angle Relief Valve.



150-pound Ampco Alloy Flanged End O. S. & Y. "Y" Valve.



Ampco Alloy Flanged End Ground Key Plug Cock.

POWELL VALVES

DU PONT Color Conditioning

Increases efficiency, improves employee morale

In the slasher room of the Ashland Corp., Jewett City, Conn., where high temperatures create uncomfortable working conditions, Color Conditioning Green is used on walls to create, psychologically, an impression of coolness.

CONCLUSIVELY PROVED in representative textile plants throughout the country, Du Pont Color Conditioning has received widespread recognition as a practical plan for increasing operating efficiency by improving working conditions.

Color Conditioning for industry is scientific, functional. It is not "interior decoration." It produces results by reducing eyestrain and fatigue. It improves morale by using color to psychological advantage. It helps eliminate personal injuries, fosters better employee-management relations.

Plan today for a safer, more efficient, more productive plant through Color Conditioning. Increased production of Du Pont Color Conditioning Paints will enable you to put this proved program to work in the very near future.

. . .

Call in a Du Pont Paint Engineer or write to: E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington 98, Delaware.

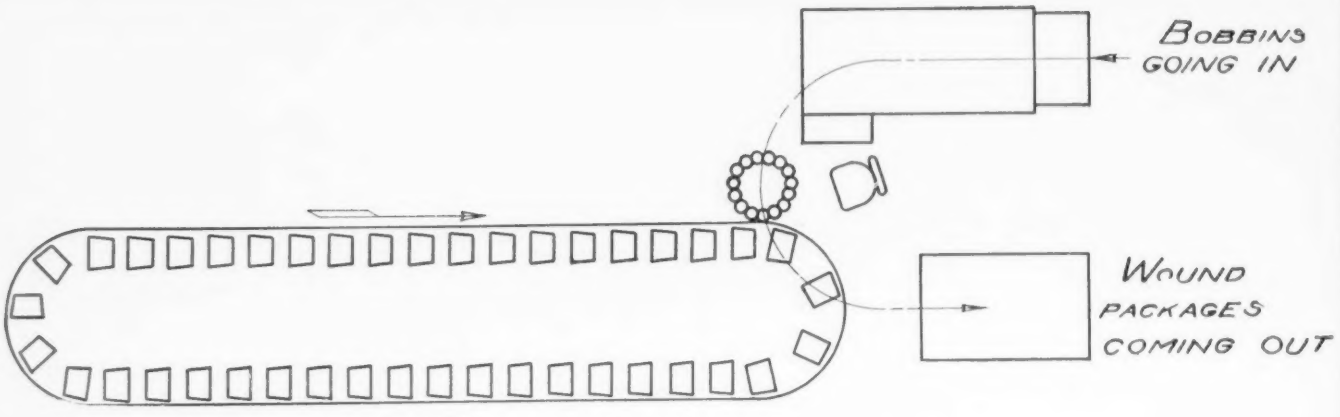
DU PONT

COLOR CONDITIONING

PAINTS

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

ABBOTT AUTOMATIC WINDER



The moving assembly line principle has always been the essential feature of Abbott winders and is not available in other makes.

The operator sits in one position, sets the full bobbins in a rotating magazine in front of her and doffs the full cones or cheeses at the same position.

There is no walking all day, stooping to pick up the bobbins, reaching over to tie them in, pushing trucks around the machine, etc. She works at the end of the winder out of the way of fly and dust. She does not have to strap a knotter to her hand and wiggle her thumb all day to tie knots.

As a result there is very little operator fatigue and yet the production in bobbins tied in per hour will average more than on any other equipment.

Any of the standard 6″ traverse packages can be wound—warping cones, knitting cones, wood or paper tubes.

The bobbins to be wound may be big or small, single or ply, warp, filling or combination wind, wood or paper.

Operators are quickly taught and maintain an even steady production.

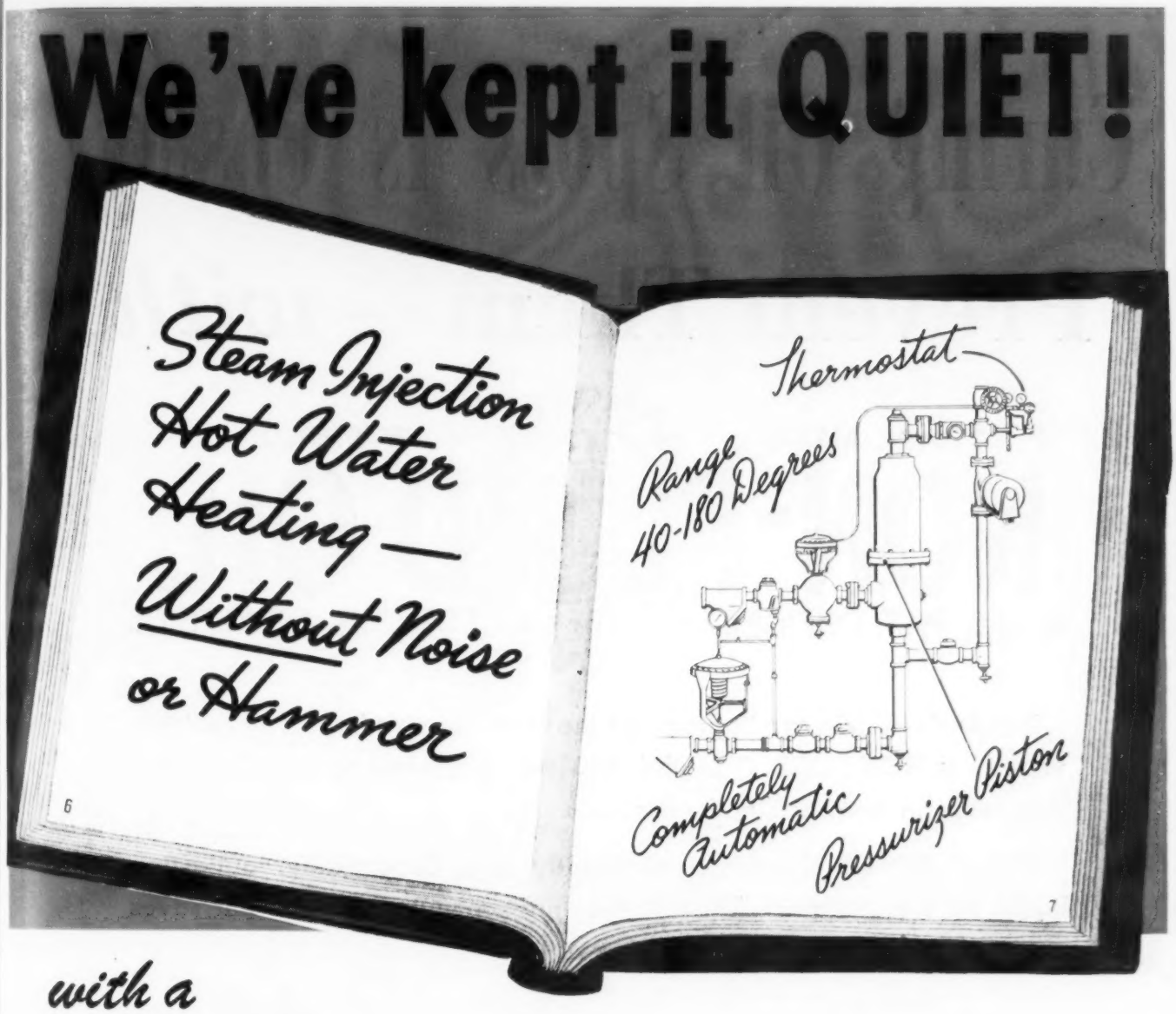
The skill of winding is built into the machine.

ABBOTT MACHINE COMPANY

Main Office and Factory: Wilton, New Hampshire

Southern Representative: Mr. L. S. Ligon, Greenville, S. C.

We've kept it QUIET!



with a

Pick INSTANTANEOUS HEATER

No objectionable noise, pipe hammering or shaking pipes with the exclusive "Pressurizer Piston" in the PICK INSTANTANEOUS HEATER. Acting as a part of the steam injection tube it stabilizes injection pressure and automatically compensates for changes in heater load.

"Custom-selected" to fit your needs Pick heaters are obtainable in 7 sizes with maximum capacities ranging from 10 to 200 gallons per minute. Every heater is capable of sustained and accurate delivery of any volume from a mere trickle to its full capacity. Any temperature within the effective range of 40 to 180 degrees Fahrenheit can be instantly selected and accurately maintained by merely changing the setting of the thermostat.

The versatility of the PICK INSTANTANEOUS HEATER fits it for all industrial needs. As a PRIMARY HEATER, capable of delivering any specified volume of water up to 200 gallons per minute. As a SUPPLEMENTARY HEATER for "spot" applications near the point of use. And as a BOOSTER HEATER easily installed in the discharge line to automatically "boost" and correct temperature deficiencies. For complete information and specifications write PICK MFG. CO., Dept. 1704, West Bend, Wisconsin.

Pick HOT WATER HEATERS

Made by **PICK MANUFACTURING CO.**
WEST BEND, WISCONSIN, U. S. A.

Curing Oil Spots Is Costly!

Prevent Them — *with*

TRADE MARK REGISTERED

NON-FLUID OIL

IN U.S. PAT. OFFICE & FOREIGN COUNTRIES

Hundreds of mills are finding that the most effective form of oil spot prevention is NON-FLUID OIL—the drip-less, waste-less modern lubricant that stays in bearings and off goods.

NON-FLUID OIL lubricates constantly and dependably, outlasting liquid oil 3 to 5 times. Thus, it not only prevents oil spots, but saves money on lubricant and application cost.

NEW YORK & NEW JERSEY LUBRICANT COMPANY
NEW YORK U.S.A.
TRADE MARK REGISTERED
NON-FLUID OIL
IN U.S. PAT. OFFICE & FOREIGN COUNTRIES

These facts have been proven so well by tests during the past 49 years that over 70% of the leading textile mills now use NON-FLUID OIL.

Write for Instructive Bulletin

NEW YORK & NEW JERSEY LUBRICANT CO.

292 MADISON AVENUE NEW YORK 17, N. Y.

Works: NEWARK, N. J.

Southern District Manager: FALLS L. THOMASON, Charlotte, N. C.

WAREHOUSES:

CHARLOTTE, N. C. - GREENVILLE, S. C. - ATLANTA, GA. - PROVIDENCE, R. I. DETROIT, MICH. - CHICAGO, ILL. - ST. LOUIS, MO

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our exclusive manufacture.

Bunting manufactures not only Special Bearings to your specification but Standard Stock Bearings and Precision Bronze Bars. On Special Bearings our engineers will be glad to work direct with you. Standard Stock Bearings and Precision Bronze Bars are available from your nearest Authorized Bunting Distributor. The Bunting Brass & Bronze Company, Toledo 9, Ohio.
28
Bunting
BRONZE BEARINGS ☆ BUSHINGS ☆ PRECISION BRONZE BARS

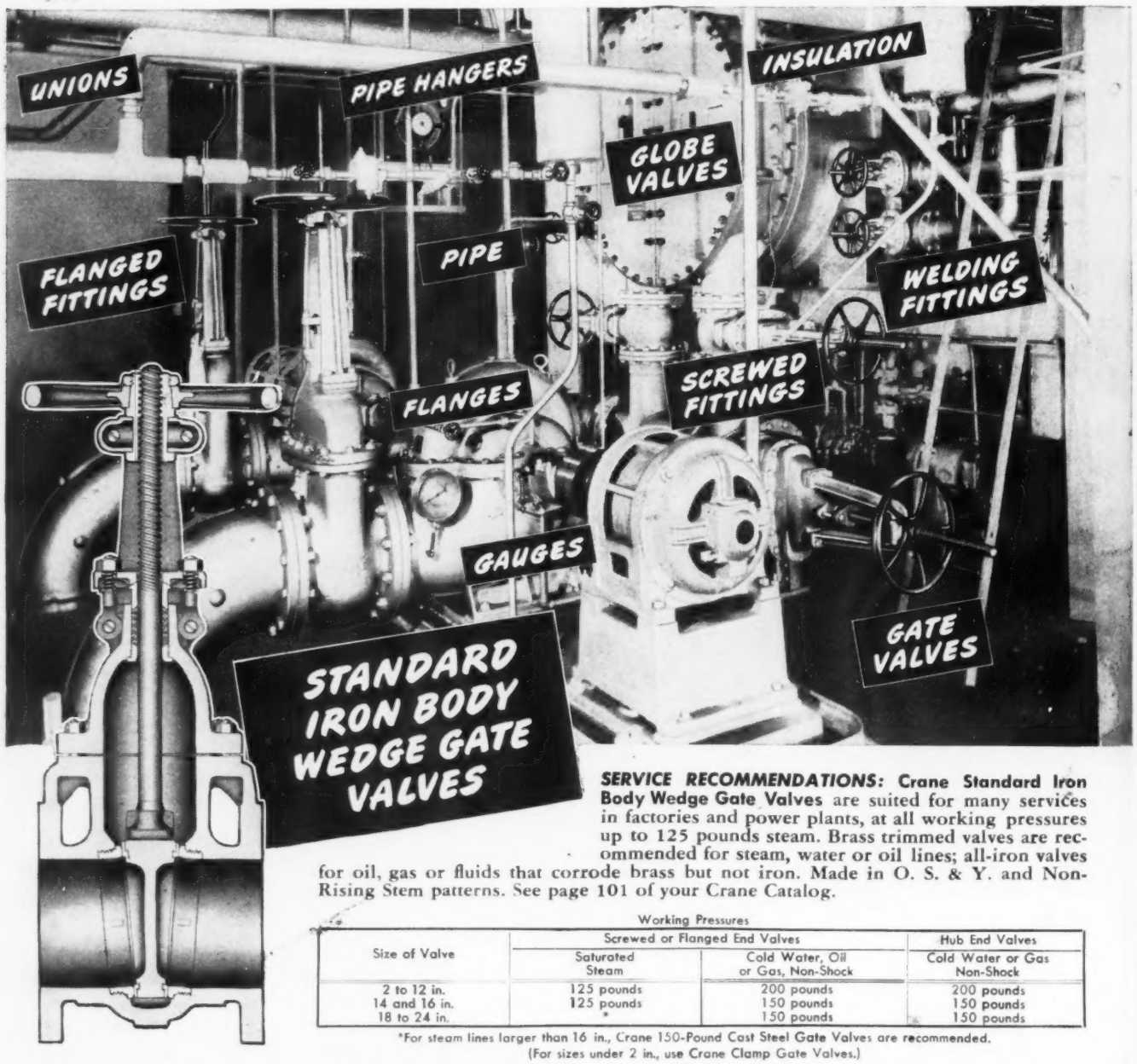
Where CRANE Can Help You in Piping Problems

ONE SOURCE OF SUPPLY • ONE RESPONSIBILITY • ONE STANDARD OF QUALITY

The conditions under which your piping systems operate govern your choice of piping materials. You can best determine the exact requirements. In that task you will find the Crane line a *truly* helpful service. By giving you the world's most complete selection of piping equipment for all applications, Crane makes it possible to get exactly what you need. You choose with complete confidence, for Crane, with 90 years' experience, points out clearly the distinct advantages of each type of valve, fittings and piping accessory.

In choosing Crane materials, you simplify any piping job. One order to your Crane Branch or Wholesaler covers all your needs. Uniform quality in all materials—plus single responsibility for them—helps keep installations at peak efficiency longer—at minimum cost. For maintenance or new work, the Crane line answers all piping equipment problems.

Condenser and circulating water pumps in power plant



SERVICE RECOMMENDATIONS: **Crane Standard Iron Body Wedge Gate Valves** are suited for many services in factories and power plants, at all working pressures up to 125 pounds steam. Brass trimmed valves are recommended for steam, water or oil lines; all-iron valves for oil, gas or fluids that corrode brass but not iron. Made in O. S. & Y. and Non-Rising Stem patterns. See page 101 of your Crane Catalog.

Working Pressures

Size of Valve	Screwed or Flanged End Valves		Hub End Valves
	Saturated Steam	Cold Water, Oil or Gas, Non-Shock	Cold Water or Gas Non-Shock
2 to 12 in.	125 pounds	200 pounds	200 pounds
14 and 16 in.	125 pounds	150 pounds	150 pounds
18 to 24 in.	*	150 pounds	150 pounds

*For steam lines larger than 16 in., Crane 150-Pound Cast Steel Gate Valves are recommended. (For sizes under 2 in., use Crane Clamp Gate Valves.)

CRANE CO., General Offices: 836 S. Michigan Ave., Chicago 5, Ill. • *Branches and Wholesalers Serving All Industrial Areas*

CRANE

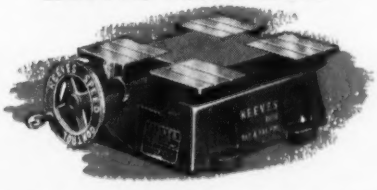
90 YEARS OF PROGRESS 1855 1945

VALVES • FITTINGS • PIPE

PLUMBING • HEATING • PUMPS

How to convert any standard constant speed motor to a Low Cost *Stepless Variable Speed Drive*

1 **Mount Your Motor on This REEVES Motor Base**

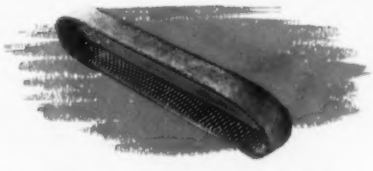


Base is built in wide range of sizes to fit any standard constant speed motor up to 15 h.p. Includes sliding platform and handwheel for moving motor forward or back.

2 **Apply This Disc Assembly to Motor Shaft**

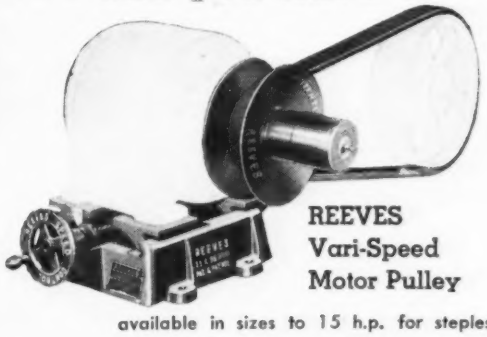
Assembly consists of two facing cone-shaped discs, one stationary, the other sliding laterally, and compression spring for mounting on extension shaft of motor.

3 **Connect to Driven Machine With This Special V-Belt**



Place specially designed REEVES V-belt between discs and over pulley on power input shaft of the driven machine. Adjust belt to minimum center. Anchor motor base.

. . . and you have a



REEVES Vari-Speed Motor Pulley

available in sizes to 15 h.p. for stepless speed adjustability within 4:1 range.

HOW IT WORKS: The operation of a REEVES Motor Pulley is extremely simple—yet it follows the time-tested REEVES principle of a V-belt traveling between the adjustable driving diameters of cone-shaped discs. By turning handwheel, motor is moved forward or back on base, varying the driving diameters of the discs. As motor is moved toward driven machine, belt rides higher between discs, thus increasing the speed transmitted. Turning handwheel in opposite direction reverses the operation. Any speed within range is accurately maintained.

WHAT YOU CAN DO WITH IT: The REEVES Motor Pulley is the simplest dependable method of providing infinitely variable speed adjustability to a driven machine. With this low-cost, easy-to-install equipment you can transform a machine with fixed speeds into a far more versatile production unit—one that is instantly responsive to every changing condition and work schedule. Install REEVES Motor Pulleys on your machines in service, and when you buy a new machine, look for the familiar REEVES handwheel that signifies REEVES-equipped.

SEND FOR THIS CATALOG

New, 96-page book gives complete information on this and the two other basic REEVES Speed Control units—the Variable Speed Transmission and the Motodrive. Ask for Catalog W-450

REEVES PULLEY COMPANY, COLUMBUS, INDIANA

Recognized Leader in the Specialized Field of Speed Control Engineering

Accurate Variable

REEVES Speed Control

Gives the Right Speed for Every Job!

ALL LINED UP...

...against SALT CORROSION

What is the most common cause of corrosion in dyehouse equipment? Just the *common* salt you put in your dye tanks. So when you put salt in, make sure you put it into Monel.* • Against Monel, salt and brine are well-nigh powerless. This strong, tough metal resists their destructive attack. It *cannot* rust, and it stands off corrosion for years. That is why you find Monel in food plants, in sea-going ships, from beginning to end of salt refineries . . . *and every place else where corrosion by salt is severe.* • Because Monel is also wear resistant and long-lived . . . and is resistant to corrosion by dyehouse liquors . . . it assures years of trouble-free dyeing at minimum cost. Write for further information on Monel for dyehouse equipment. Address: THE INTERNATIONAL NICKEL COMPANY, INC. 67 Wall Street New York 5, N. Y.

* Reg. U. S. Pat. Off.

MONEL

Upper photo shows partial view of eight Monel-lined dye tanks in use in an eastern plant. Rolls, reels, baffle plates, heating units and tie rods are also made of Monel. Lower photo shows close-up of Monel lining after more than ten years' use.

This DRAX tag will be a recognized symbol of plus value

The big new name in fabric finishes

It's JOHNSON'S DRAX

Trademarks Reg. U. S. Pat. Off.

BIG NEWS...DRAX service rapidly becoming available at laundries and dry cleaners everywhere!

Yes, Johnson's DRAX is a truly *different* fabric finish! Not only is it an amazingly efficient water-repellent that also guards fabric freshness, but it is *easily* renewable at neighborhood laundries and dry cleaners. This is exciting news because it means that a DRAX-protected fabric can *always* be as completely water-repellent and stain-resistant as when it was new.

Furthermore, DRAX gives superior results in use. Tests conducted by an independent laboratory showed that DRAX produced a water-repellency efficiency exceeding Army specifications for initial spray rating. DRAX is easy and inexpensive to use and may be applied, not only to cellulose fibres, but to *any* textile.

Technically, DRAX is a simple wax emulsion which stays stable in solution, is non-flammable. Textile mills already using DRAX find that it adds a definite profit-*plus* to fabrics without being costly or difficult to use.

DRAX tags are available to identify DRAX-treated fabrics to customers. Be ready for the big demand. Learn about DRAX now.

S. C. Johnson & Son, Inc., Fabric Finishes Division, Racine, Wis. Starrett Lehigh Building, 601 West 26th St., New York 1. Or any of our other 18 district offices.

Tune in Fibber McGee and Molly — Tuesday night — NBC

***DRAX** is made by the makers of*

JOHNSON'S WAX (A name everyone knows)

Guaranteed by Good Housekeeping

★ *Buy Victory Bonds — to KEEP!* ★

S. C. JOHNSON & SON, Inc., Dept. TW-115, Racine, Wis.

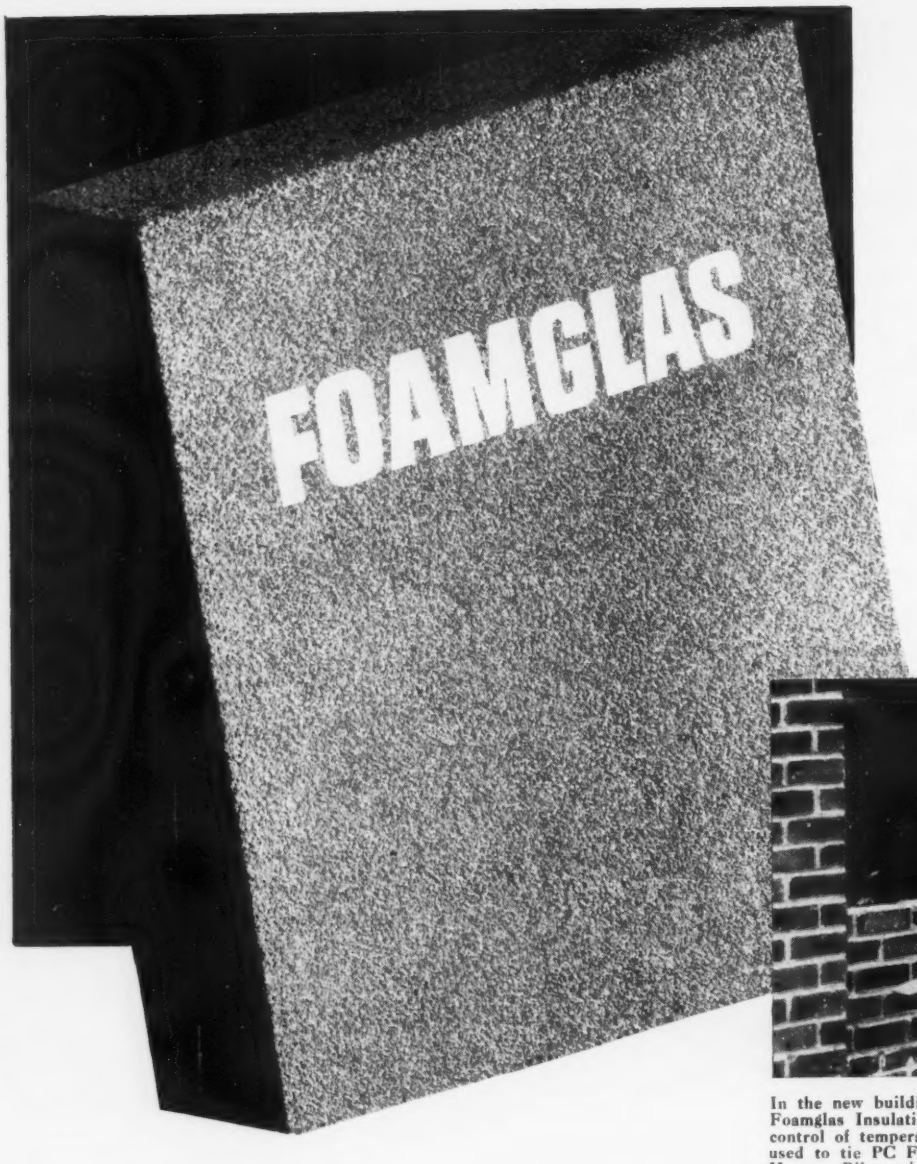
Yes, I'd like to try DRAX. Please send my FREE sample, plus instructions and complete information.

Name _____

Firm Name _____

Address _____

City _____ *State* _____



It Grows *and Grows*

In the new building of The A–Q Mills, Timmonsville, S. C., PC Foamglas Insulation is used as shown above, to provide improved control of temperature and humidity levels. Ordinary brick ties are used to tie PC Foamglas in to both backing and facing. Engineer: Herman Biberstein, Charlotte, N. C.

SALE of PC Foamglas, the new cellular glass insulating material, keeps growing and growing. Plant owners all over the country are using it to insulate roofs, floors, walls, tanks and equipment.

PC Foamglas helps maintain temperature and humidity levels. It is impervious to moisture, acid fumes, vapor. It's verminproof and fireproof. When properly applied, its insulation value is *permanent*. Check these advantages against the insulation you are now using and note the difference.

Send the convenient coupon today for free booklets describing this insulation material that stays new. Pittsburgh Corning Corporation, Room 698, 632 Duquesne Way, Pittsburgh 22, Pa.

The new drying room for the gum dip unit, at Firestone's Akron Plant, will run to temperatures as high as 280°F. In order to insure that adjacent rooms be kept at normal temperature, the walls, the floor and the ceiling (illustrated here) are insulated with PC Foamglas. (General Contractor, Krumroy Construction Co., Akron, Ohio).

· Also makers of PC Glass Blocks ·

PC FOAMGLAS *Waterproof Fireproof* **INSULATION**

T. M. REG. U. S. PAT. OFF.

Pittsburgh Corning Corporation
Room 698, 632 Duquesne Way
Pittsburgh 22, Pa.

Please send along my free copy of the booklets checked below.

Roofs_____ Walls_____ Floors_____

*Name*_____

*Address*_____

*City*_____ *State*_____

Mirrored Loveliness . . . The true reflection of natural beauty comes with flawlessly clear, even-textured stockings. Every full-fashioned stocking manufacturer knows that production bringing high profits depends on the finest needles. Keep your Knitting Machines young and effective with TMW Needles . . . *And remember: Regular Reneedling Pays! Let us put your needle bars in shape for faster, more accurate, more profitable knitting.*

TEXTILE MACHINE WORKS • READING, PA.

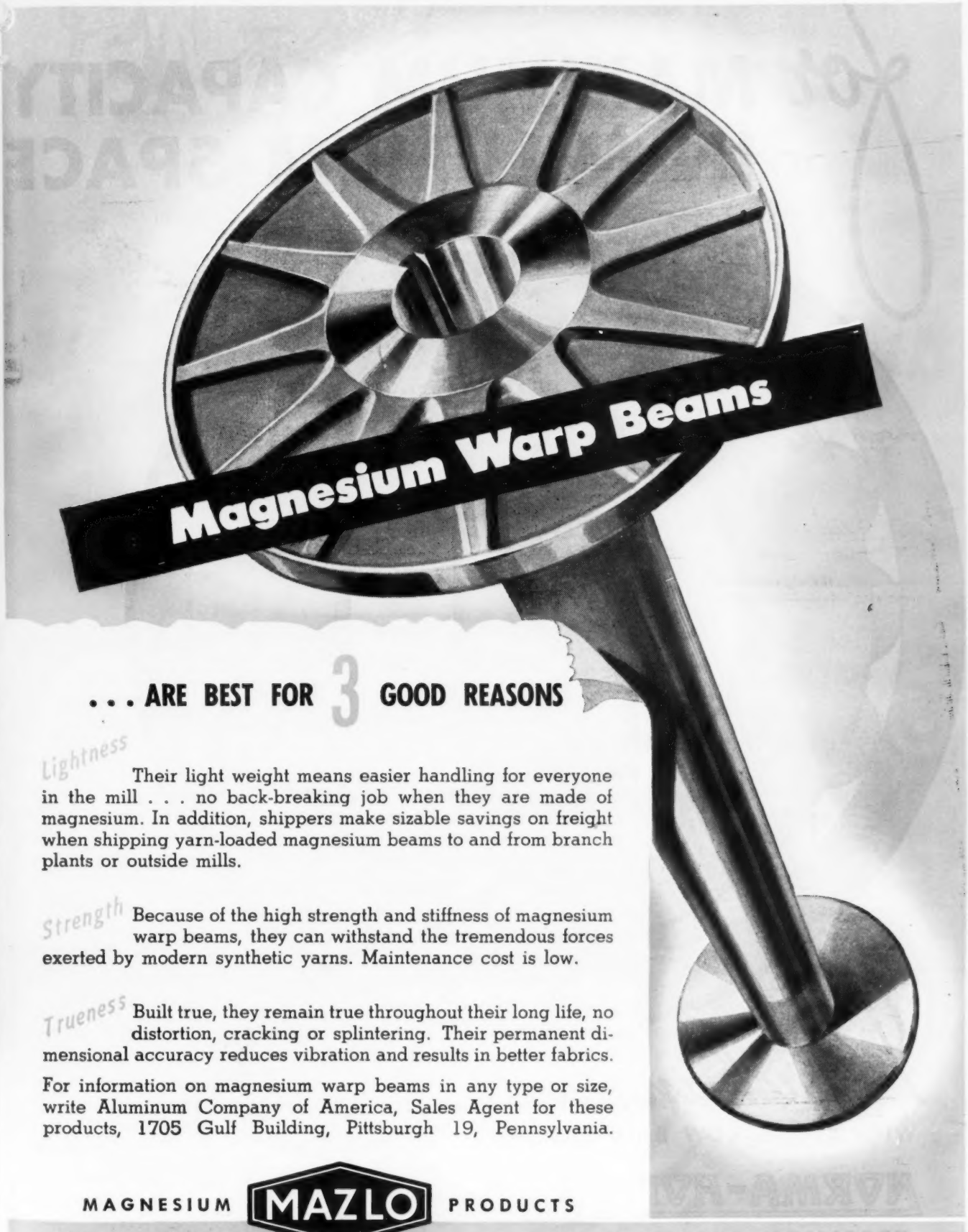
THE WAR DECORATIONS OF
TEXTILE MACHINE WORKS
Bur. of Ord. Flag and Navy "E"
July 25, 1941
One Star All-Navy "E" Burgee
January 25, 1942
Two Star Army-Navy "E"
July 25, 1942
Three Star Army-Navy "E"
January 25, 1943
Four Star Army-Navy "E"
January 11, 1944
Five Star Army-Navy "E"
July 9, 1945

"Patience is but lying to and riding out the gale."

BEECHER

Within the limits of material and manpower now available we are working on production of new high-precision READING Machines, designed to develop a new-high standard of quality and quantity production in the knitting of Full-Fashioned Stockings . . . Until such time as we can deliver these new machines to you, we will do our utmost to help you keep your present equipment at highest efficiency.

TEXTILE MACHINE WORKS • READING, PA.



. . . ARE BEST FOR 3 GOOD REASONS

Lightness Their light weight means easier handling for everyone in the mill . . . no back-breaking job when they are made of magnesium. In addition, shippers make sizable savings on freight when shipping yarn-loaded magnesium beams to and from branch plants or outside mills.

Strength Because of the high strength and stiffness of magnesium warp beams, they can withstand the tremendous forces exerted by modern synthetic yarns. Maintenance cost is low.

Trueness Built true, they remain true throughout their long life, no distortion, cracking or splintering. Their permanent dimensional accuracy reduces vibration and results in better fabrics.

For information on magnesium warp beams in any type or size, write Aluminum Company of America, Sales Agent for these products, 1705 Gulf Building, Pittsburgh 19, Pennsylvania.

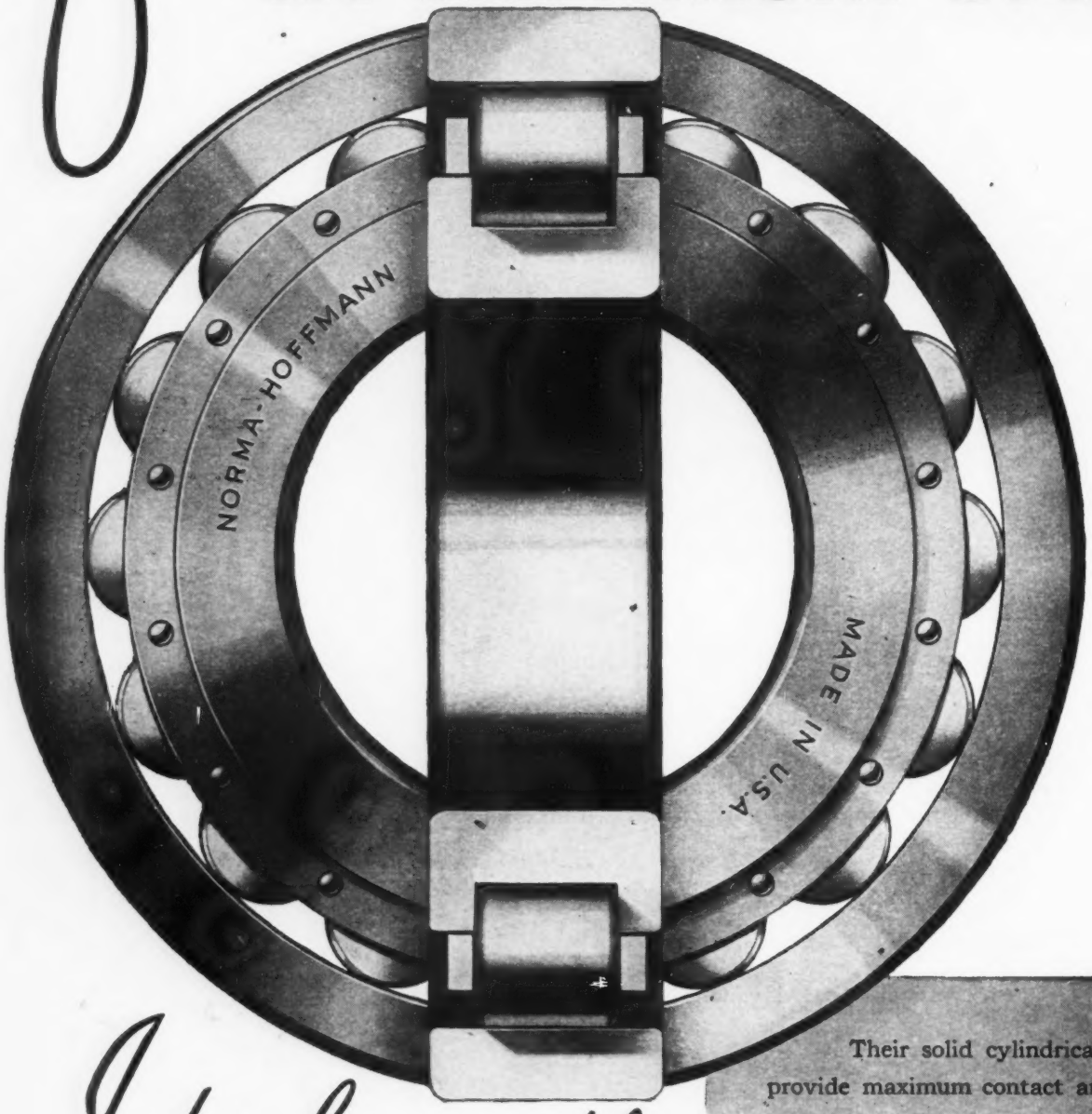
MAGNESIUM MAZLO PRODUCTS

REG. U. S. PAT. OFF.

AMERICAN MAGNESIUM CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

for MAXIMUM CAPACITY IN MINIMUM SPACE



Interchangeable

WITH SINGLE-ROW BALL BEARINGS

NORMA-HOFFMANN

PRECISION ROLLER BEARINGS

NORMA-HOFFMANN BEARINGS CORP'N.,

STAMFORD, CONN., U. S. A. • *Founded in 1911.*

Write for the Catalog. Let our engineers work with you.

Their solid cylindrical rollers provide maximum contact area, giving larger load and shock-absorbing capacity than any other single-row bearing of like dimensions. Thus, when NORMA-HOFFMANN PRECISION ROLLER BEARINGS are used in place of ball bearings, a greater factor of safety is provided, together with added life, particularly under vibration and overload. PRECISION qualities in workmanship and materials adapt them alike for both low and high speeds.

Take-A-Way

Invite retail customers to take their purchases with them. Make it easy—for the retail store and for the customer—with a special "take with" package of rigid, light weight, colorful corrugated board. Such packages have high after-purchase utility value to the consumer and continue to promote your product name in the home for months after the original sale is made. Does your product lend itself to convenient "carry home" merchandising? If it does, here is an idea worth investigating.

H&D Post-War Packaging Idea

LUGGAGE BOX

Attractive, easy to carry H & D luggage type boxes furnish the merchandising background for many items including, no doubt, one or more of your products. This unusual package design can be used for effective retail display, promotes additional sales, wins dealer goodwill — three important factors for efficient merchandising. Our booklet, "Pack to Attract" will open your eyes. Send for a copy today.

Hinde & Dauch

AUTHORITY ON PACKAGING

THE HINDE & DAUCH PAPER COMPANY, 4530 DECATUR STREET, SANDUSKY, OHIO

Factories in BALTIMORE • BOSTON • BUFFALO • CHICAGO • CLEVELAND • DETROIT • GLOUCESTER, N. J. HOBOKEN • KANSAS CITY • LENOIR, N. C. • MONTREAL • RICHMOND • ST. LOUIS • SANDUSKY, OHIO • TORONTO

1,000,000 machine operating hours

give Gulf Technologists new facts on ball bearing lubrication

THE BEARING TEST MACHINES shown below have been operated for over 1,000,000 test hours to develop better lubricants for ball bearings. These machines operate twenty-four hours a day when in use, and tests of as much as 20,000 hours without bearing failure have been made on a single application of a Gulf quality grease!

Gulf technologists have devised many kinds of special apparatus and equipment which duplicate or closely simulate service conditions, so that the performance values of lubricants can be predetermined. To this is added knowledge gained through field contacts with thousands of plant problems each year. Result: improved lubricants with better performance values which help industry increase production and reduce maintenance costs.

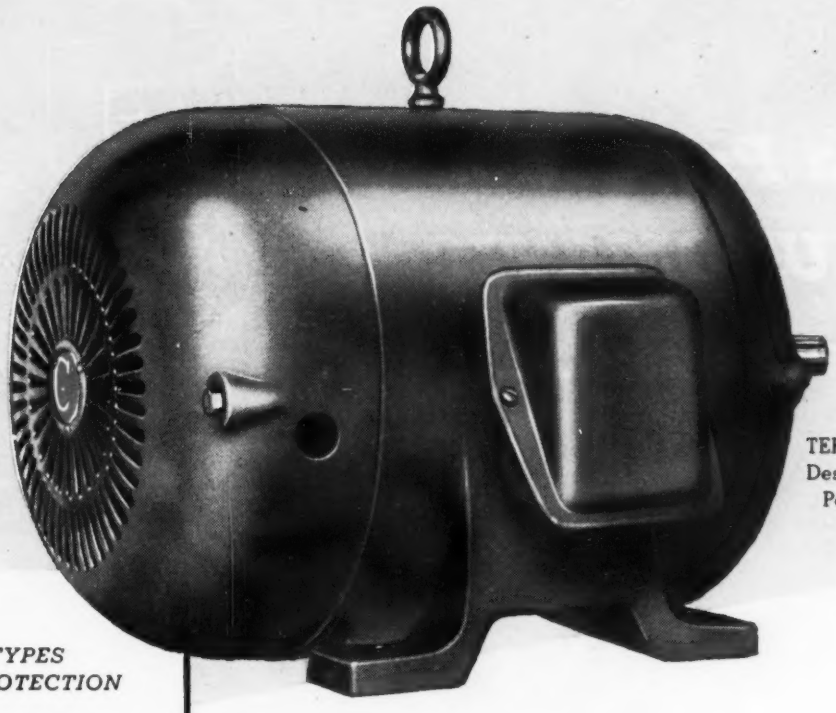
If you have a lubrication, cutting, or quenching problem, let Gulf co-operate with you in developing the best solution. Write, wire, or phone your nearest Gulf office today and ask a Gulf Service Engineer to call.

The grease testing machines shown above are only a small part of the highly specialized equipment employed by Gulf technologists to develop improved lubricants for specific requirements.

GULF INDUSTRIAL LUBRICATION

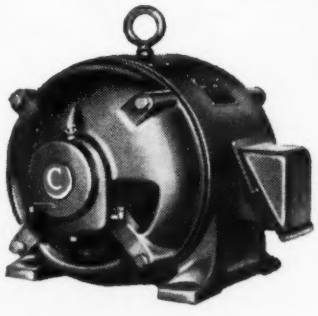
Gulf Oil Corporation · Gulf Refining Company

Division Sales Offices: Boston · New York · Philadelphia · Pittsburgh · Atlanta · New Orleans · Houston · Louisville · Toledo

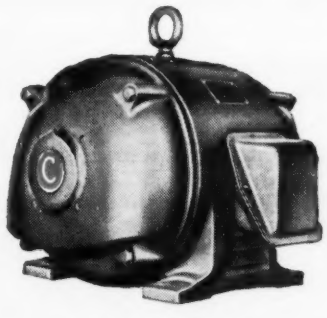


TEFC—Protects Against Destructive Dust, Grit, Powdered Materials

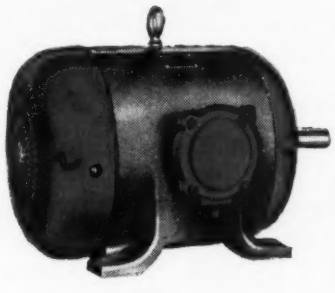
3 OTHER TYPES OF PROTECTION



Form J
General Purpose Application



Splash Proof Protection



Century Explosion Proof Motor

FOR PROTECTION Against Atmospheres That Contain Acid and Alkali Fumes – Abrasive Dusts

Use Century TEFC Motors

Century Totally Enclosed Fan Cooled motors are designed to operate continuously in abnormal atmospheres found in chemical and processing plants.

They provide protection against atmospheres containing acid and alkali fumes, oil or animal fats, coolant solutions, metallic, abrasive, and other destructive dusts, grit, and powders.

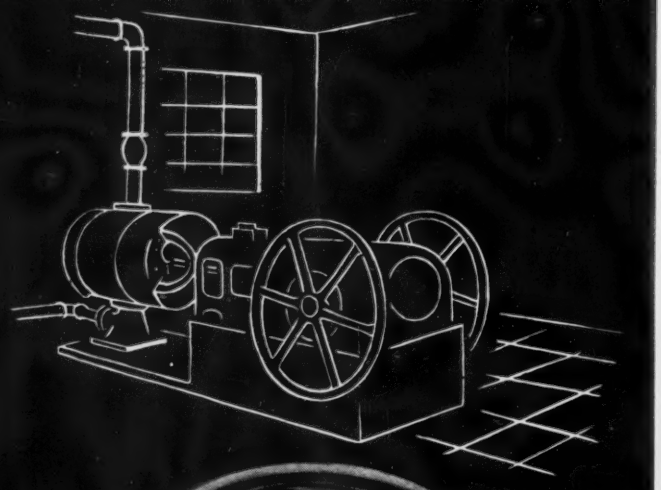
Where atmospheres are charged with high concentrations of destructive fumes, Century TEFC motors can be provided with special insulations.

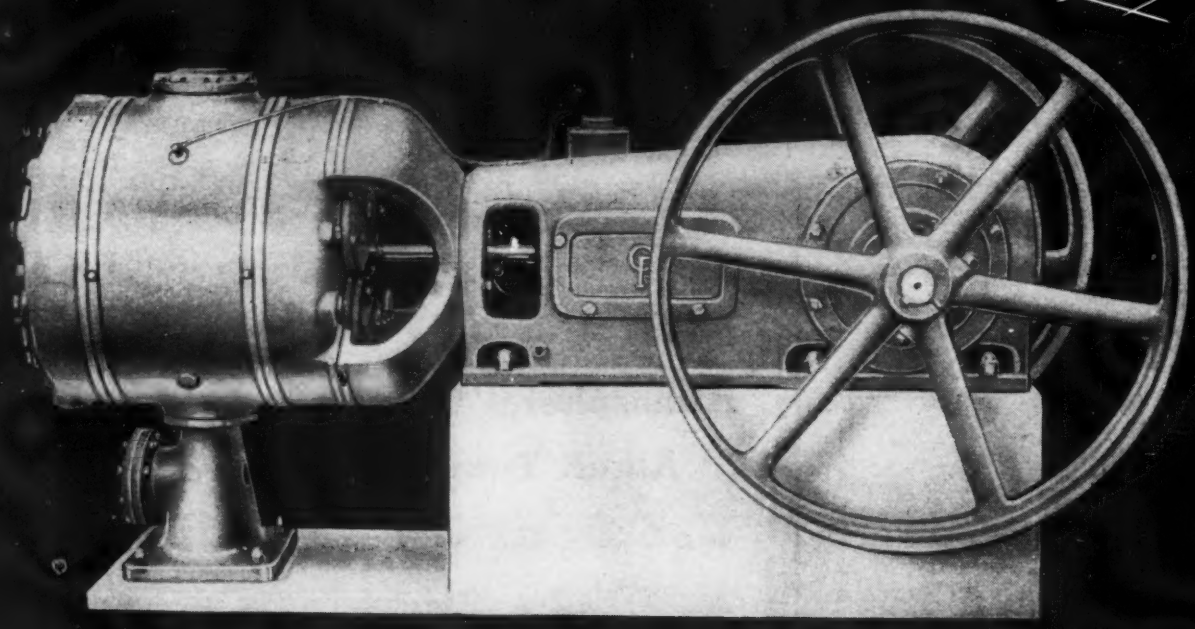
Why not find out how Century TEFC motors can help you avoid production delays and help achieve continuous, economical performance? Call in a Century engineer.

Century C MOTORS

CENTURY ELECTRIC CO.
1806 Pine Street, St. Louis 3, Missouri
Offices and Stock Points in Principal Cities

Extra Protection In AUTOMATIC Water Relief





CP SINGLE AND DUPLEX DRY VACUUM PUMPS

ONE of the discharge assemblies in each end of the cylinder of a CP Horizontal Vacuum Pump is arranged as a special automatic valve. Should a slug of liquid be accidentally drawn into the cylinder the relief valve assembly will lift off its seat against a heavy spring, providing extra escape area for the liquid and minimizing the danger of damage to the pump. This is an exclusive CP feature.

The durable Simplate Valves are located in both cylinder heads parallel to the piston face, affording low valve clearance and high volumetric efficiency at high vacua.

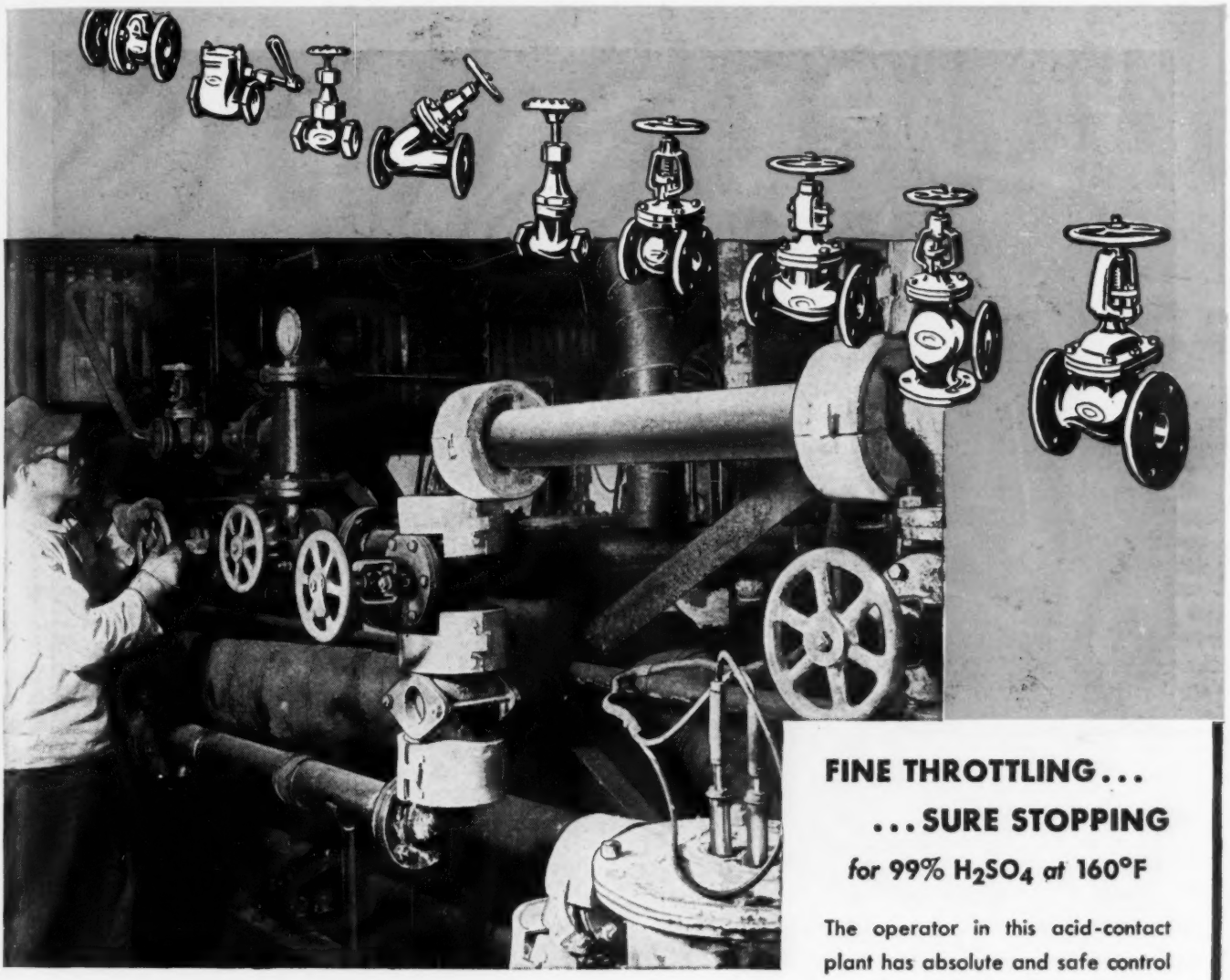
Arranged for belt, motor or steam drive, CP Horizontal Single and Duplex Dry Vacuum Pumps are available in capacities up to 15,000 c.f.m. Two-stage pumps available for very high vacua. Write for complete information.

★★★★★★★★★
PNEUMATIC TOOLS
ELECTRIC TOOLS
HYDRAULIC TOOLS
ROCK DRILLS

CHICAGO PNEUMATIC TOOL COMPANY

General Offices: 8 East 44th Street, New York 17, N. Y.

★★★★★★★★★
AIR COMPRESSORS
VACUUM PUMPS
DIESEL ENGINES
AVIATION ACCESSORIES



FINE THROTTLING...
...SURE STOPPING
for 99% H_2SO_4 at 160°F

The operator in this acid-contact plant has absolute and safe control with Aloyco-20 Valves, designed for fine throttling and fool-proof closure.

ALOYCO-20 VALVES
SOLVED THIS *ACID* CIRCULATING PROBLEM

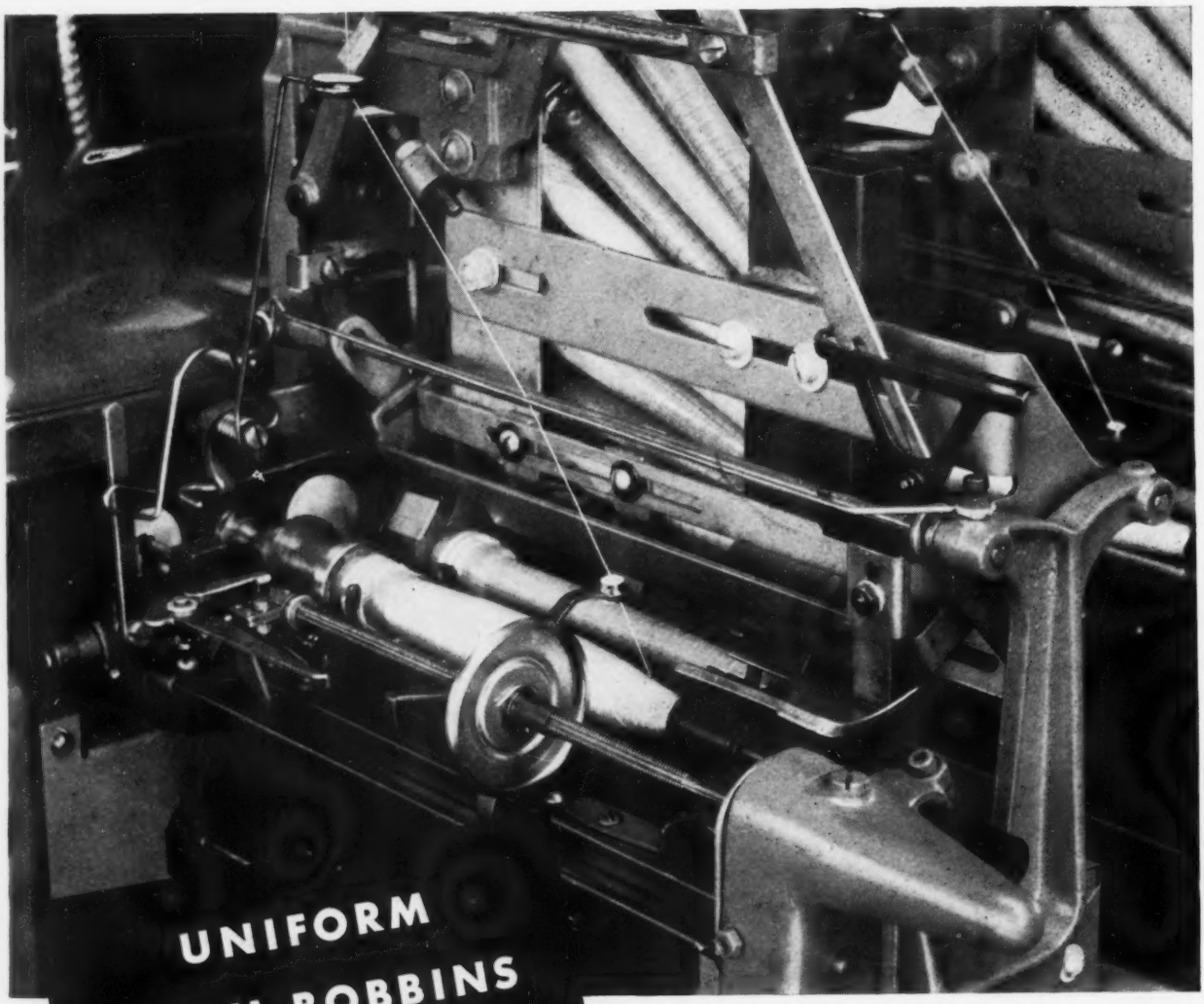
The wide variety of Aloyco-20 Stainless Steel Valves enabled this Sulfuric Acid Manufacturer to achieve piping freedom. He also reduced repairs through proper valve application. Since Aloyco-20 resists Sulfuric over a broad temperature and concentration range, he was able to standardize on one alloy, thereby lowering inventories. Aloyco-20 can also help you.

SEND FOR DATA ON SULFURIC ACID HANDLING

Sheet AS 20-1 gives metallurgical, mechanical and chemical data covering Aloyco-20. Shows valves in cross-section, dimensions, etc. Write for it.

ALLOY STEEL PRODUCTS COMPANY, INC.
1304 West Elizabeth Avenue • Linden, New Jersey

ALOYCO
Stainless Steel
VALVES and FITTINGS
GATE VALVES • GLOBE VALVES
Y VALVES • CHECK VALVES
LEVER THROTTLE GATE VALVES
TANK VALVES • SCREWED FITTINGS
FLANGED FITTINGS
GAUGE GLASS FITTINGS



UNIFORM LOOM BOBBINS OF HIGHEST QUALITY

because of Universal's proven bobbin-building method

In making the No. 99 Winding Machine automatic, Universal engineers preserved those features of the No. 90 machine which are responsible for the winding of top-quality bobbins. New controls have been established to protect yarn at high speed.

For instance, the same Universal Traverse Wheel is used. It produces bobbins that are round, parallel-sided, and free from ridges that cause plucks.

LOOK FOR ALL 3 IN CONSIDERING AN AUTOMATIC MACHINE

A proven bobbin-building method—gives uniform bobbins.

Positive spindle drive—you get all the production you expect.

Electrical controls combined with mechanical controls to simplify design.

Orders are now being accepted for winding all fibres. Universal Winding Company, Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta.

UNIVERSAL AUTOMATIC

High Speed Bobbin Winding Machine

. . . Putting Electricity to Work to Improve Your Bobbin Winding

THE GERMAN ECONOMIC PEACE HARD, SOFT... or WORKABLE?

IT is not surprising that difficulties are being encountered in spelling out the detailed terms of the German economic settlement.

The problem is exceedingly complex. The German economy is more or less inextricably bound up with the economy of continental Europe. Before the war that area—excluding the United Kingdom, Ireland and Russia—accounted for approximately one-fourth of the world's production, and for more than thirty-five per cent of world import and export trade. Germany's production constituted almost one-third of the output of continental Europe. It is obvious that the decisions we make now concerning the future German economy will exert profound influence not only upon the economy of Europe but also upon that of the world. It is clearly not practicable to plan for an expanding world economy unless provision is made for Europe generally to share in the development.

Despite the magnitude and complexity of the problems involved, it is crucial that we and our Allies come to swift and decisive agreement. Such agreement is important both to world economic reconstruction, and as a demonstration that those who won the war can reach accord on the terms of world economic rehabilitation.

We shall accomplish little if we continue to debate in terms of *adjectives*. Yet most of the public discussion to date has centered around whether or not the economic settlement with Germany should be *hard* or *soft*. To make progress we must focus instead upon *objectives*. A good program is one that will promote our objectives—a bad program is one that will not.

What Are We Trying To Accomplish?

Upon the economic objectives of the German peace settlement there is little fundamental debate. This is demonstrated by reference to a number of documents of recent release—the United States Directive to General Eisenhower of April 1945, the Report of the Tripartite Conference at Berlin of July, the Report of the American Advisors to the Office of Military Government of September. The latter document stresses fundamental difficulties in developing a practical program for carrying out the objectives of the other two, but it does not question their formulation of aims.

What are the objectives that we are seeking to forward:

1. The disarmament of Germany.

2. The elimination of German industries devoted primarily to armament production.

3. The assessment of reparations to compensate those nations which have suffered losses from German aggression through direct war destruction and through the German policy of confiscating industrial equipment to her own use.

How Far Are We Agreed on Procedure?

There is also a wide measure of agreement upon detailed procedure for carrying out these objectives. No one, of course, questions the policy of confiscating German arms. Equally, there is agreement that German industry devoted directly to the production of war equipment should be confiscated or destroyed, and that control measures should be instituted and sustained to prevent her from reconstituting such industries in the future. Since it is not practicable to prevent aircraft production and shipbuilding from being diverted to military use, these industries are included in the armament category. And similar reasoning generally extends the list of prohibited industries to ball bearings and abrasives.

There is an additional category of German production which all of the Allied powers agree should be uprooted and permanently barred. It embraces all economic activity which prewar Germany cultivated on an uneconomic basis through subsidy and other protection for the prime purpose of developing a self-sustaining economy to support aggressive war.

The major elements in this category are not difficult to define. A great German industry for the synthetic production of gasoline and other oil products from coal never operated upon an economic basis. The cost of such fuel products to prewar Germany averaged almost four times what it would have cost her to buy petroleum products in the world market. It is doubtful whether these plants could be operated postwar at a cost much below three times the world market price for competing petroleum products.

A similar situation applies to German synthetic rubber production. In an attempt to free herself at least partially from dependence upon supply lines, she produced synthetic rubber at a cost at least double the world market purchase price. Similarly, she protected or otherwise subsidized a considerable agricultural production, particularly in grains, for which her lands were so ill suited that Germans had to pay for German-grown wheat from three to four times the world market price.

These are merely outstanding examples. The maintenance of such activities in Germany constituted a drain upon the German economy rather than an advantage other than that of preserving a self-sufficiency necessary for war. Hence their elimination is clearly indicated, and generally subscribed to, though the job of defining a complete list is far from easy.

What Is The Area of Dispute?

Unfortunately, this total catalogue of agreed-upon measures is not sufficient to provide either adequate security against a resurgence of German militarism or satisfactory restitution to her European neighbors for Germany's ruthless destruction of their industrial plant and equipment. To serve these two ends it is necessary to cut down the margin of German dominance in heavy industry—in steel, in electric power, in machine tools, and other industrial equipment. Unless such steps are taken, Germany will emerge from the war with sufficient industrial power to provide a continuing and perhaps uncontrollable military threat; and we should be perpetuating a dominance that was developed, as a matter of German strategy, far beyond the requirements of her civilian domestic markets or the export potentials of normal trade.

German steel capacity was built to a wartime peak of twenty-four million tons a year. Before the war she had accumulated a store of machine tools greater than that of the United States, and her present stock of some four or five million tons of such tools is second only to ours. There is little debate over the necessity and justice of cutting down the margin of German dominance in heavy industry, particularly since it was built to its current levels through aggressive economic warfare to serve as an instrument of actual warfare. It is recognized, too, that in this sector of the German economy will be found the most useful reparations in kind for the countries damaged by German aggression.

The question is how much heavy industry and electric power equipment should be taken from Germany and transferred to others. The Russians, having experienced colossal war damage, are demanding very severe assessments. They talk of reducing postwar German steel capacity to three million tons annually.

The United States inclines to assessments in this field of less extreme dimension—we have suggested leaving in Germany an annual steel capacity of from seven to ten million tons. We naturally are concerned lest action be taken that will cause a complete breakdown of the German economy. If this should happen while we maintain occupational forces there, we should feel responsible for seeing that the Germans within our jurisdiction are provided with at least the means for subsistence. Furthermore, both we and the British know that in the long run our peoples will not support control measures over Germany which go beyond our concepts of reasonable fairness consistent with security requirements.

It is no part of our intention, as has been suggested by some, to provide for a German economy that will serve as a buffer against Russian expansion. We know, however, that our weakest course would be to commit ourselves now to continuing control measures which our people would later repudiate as falling outside democratic concepts of justice. On this issue we cannot, and should not, compromise.

How Can We Resolve Our Differences?

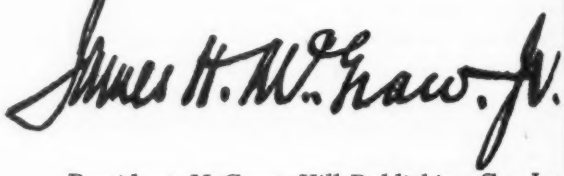
The best chance for resolving the differences which have appeared between the Russian position on the one hand and the American and the British position on the other lies in making a sharper distinction than has appeared in current discussion between long-term and short-term control decisions. All of us are agreed upon the policy of wiping out German military production and that part of German economic activity which has been run at economic loss to provide for a national self-sufficiency useful only for war purposes. But we are unwilling to enter into long-term commitments for holding down those parts of the German economy that do not constitute a war threat. That would unduly penalize future generations of Germans and drag down the whole economy of continental Europe.

It should be possible to reach agreement that measures for cutting down German heavy industries and power-generating facilities are immediate measures, and that no attempt will be made to sustain such controls over an extended period. If part of the German establishment in these fields is transferred to countries whose manufacturing resources have been damaged by German aggression, it can serve the purpose of effecting a reasonable balance without destroying utterly incentives for a new generation of Germans to improve by peaceful methods their status in a peacetime world.

Such a program is consistent with the concept of building a healthy and balanced European economy in which general economic interdependence provides one of the essential safeguards against a resurgence of German militarism. We must still face the problem of agreeing upon how far the non-armament segments of German industry can be cut back at the present juncture without leading to disastrous breakdown with its resultant chaos. Such definition, though formidably difficult, should not be beyond the capacities of the nations whose combined might brought victory, and who have the strongest of incentives for devising a lasting peace.

The key to agreement lies in each of us doing his best to understand the position of the other. Russia must recognize that we cannot get our people to subscribe to the permanent repression of a European economy which would deny to millions of people any hope of normal economic betterment. We should try to understand Russia's conviction that she is entitled immediately to reimburse herself for her war losses by drawing upon the German industrial establishment that still exists. It will help to resolve our differences if we separate in our thinking steps that require permanent controls from those which are merely temporary expedients.

Neither of us will be forwarding our ultimate and common objectives if we impose controls that blight the development of so large and important a segment of the world as continental Europe. In such a blight lies the germ of a Third World War.

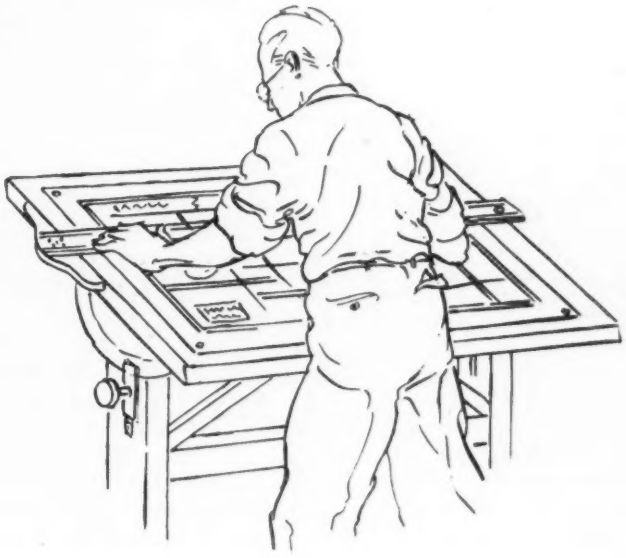


President, McGraw-Hill Publishing Co., Inc.

THIS IS THE 41ST OF A SERIES

November, 1945 **TEXTILE WORLD** Volume 95, Number 11

Industry Plans to RENOVATE, MODERNIZE, and EXPAND



By **HAROLD E. REED,**
Assistant Editor, TEXTILE WORLD

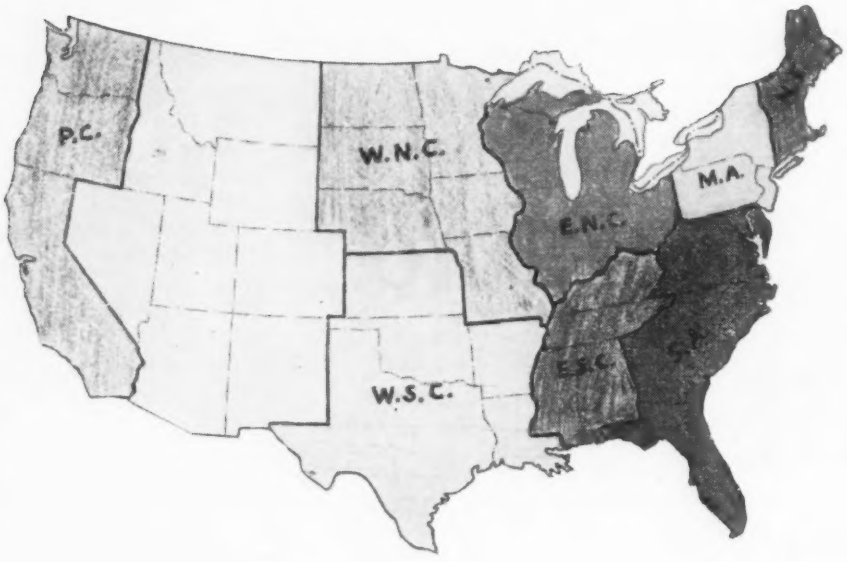
By the end of 1945, the textile industry in the United States and in Canada will have under way a renovation, modernization, and expansion program involving an initial outlay of $188,265,000 for major plant and equipment. For the United States alone, the figure amounts to $170,265,000. Considering that the war ended in August and that conversion of many of the plants which equip and supply the textile industry has been slower than expected, a surprisingly good start has been made on carrying out the impressive postwar plans which the industry reported in a Textile World questionnaire a year ago.

The results of that questionnaire were given in detail in the Annual Mill Check-Up Section of our November, 1944, issue. The mills of the United States were asked what they intended to buy in the way of major plant and equipment during the first five years of the postwar era, and the returns indicated that the total expenditure would amount to $640,972,000. As was pointed out at the time, the industry intended to make its purchases as rapidly as deliveries could be scheduled, rather than arbitrarily distribute those purchases evenly throughout the five-year period. The current figure for the United States, $170,265,000, indicates that in a year which is less than half postwar the mills are in full swing on the expenditure of 25% of their proposed outlay.

Of course, today the over-all program is probably larger than it was a year ago, because at that time many mills had not completed their postwar plans; but since it is universally believed that for several years the suppliers cannot produce rapidly enough to meet even the demand estimated in 1944, it is of little moment how much the plans have expanded during the last twelve months. The important thing is that mills have found it possible, even this early, to demonstrate the seriousness of their intentions and their faith in the future by means of a good, tangible start on the huge program.

As explained in more detail later in this section, the figures for 1945 are based on the outlays by individual mills reported to Textile World for its monthly news columns. Study of these reports indicates that the work contracted for consists of additions to present plants and the equipping of them; the building and equipping of a limited number of new plants; the remodeling and re-equipping of present units, involving in some cases the relocation and the reshuffling of machinery to obtain increased efficiency; and the building of rest rooms and other conveniences for employees. Other expenditures are for new power plants and for extensive improvements and additions to mill villages. Also reported are expenditures for air conditioning, humidification, lighting, and handling equipment.

Annual Mill Check-Up Section ····· ▷ ▷ ▷



Activity Abounds in All Sections . . .

STATISTICAL data for this analysis were based on textile-mill activity reported in the "News About Mills" columns of TEXTILE WORLD for this year to date and projected to cover the remainder of the year, with due allowance for the increasing rate of activity. Allowance was made also for the usual ratio between projects currently reported and projects actually carried through as determined later by the Department of Commerce. Expenditures for synthetic-fiber-producing units were not included.

Map shows areas covered by the geographical classifications employed in the accompanying table

Geographical Distribution

OF CURRENT MAJOR PLANT AND EQUIPMENT EXPENDITURES FOR 1945

South Atlantic	$111,643,000
New England	23,700,000
Middle Atlantic	20,877,000
West North Central	4,220,000
East South Central	4,112,000
East North Central	3,540,000
West South Central	1,737,000
Pacific Coast	436,000
TOTAL TEXTILE INDUSTRY, U. S.	$170,265,000
CANADA	$ 18,000,000
TOTAL TEXTILE INDUSTRY in U. S. & Canada	$188,265,000

Note—Estimates based on activity under way and specified as reported in Textile Mill News columns of TEXTILE WORLD for the first eight months of 1945.

Breakdown shows activity by geographical sections of the country. The largest expenditures are very definitely in the South Atlantic area, a fact which seems to belie the contention that the future development of the industry will be westward from that district.

However, it cannot be overlooked that close to $6,000,000 is going into the East South Central and West South Central areas; and of particular interest, perhaps, is the boost being given to Arkansas by Munsingwear, Inc., which recently acquired a controlling interest in the Rollins Hosiery Co. Munsingwear is continuing with plans formerly made by Rollins for the construction of a $1,000,000 plant at Rogers, Ark., for the manufacture of nylon hosiery. Any move toward establishing a plant in an area relatively virgin to textile manufacture may be based on the desirability of tapping new labor sources and eliminating the labor difficulties which are prevalent in some longer-established textile centers.

The figure of $23,700,000 for New England lends credence to the contention that the East has staged a comeback during the war and looks forward optimistically to a continued resurgence of textile activity. One new plant alone in New Hampshire calls for an outlay of $2,500,000. A large amount of the New England expenditure is for modernizing and re-equipping existing plants.

The Middle Atlantic states show a development nearly as impressive as that of New England.

While the valuation given for the Pacific Coast is low, the belief is prevalent in some quarters that big textile doings are on the California horizon. These may prove to be specialty plants serving the local garment industry.

In the relation of mill expansion and new construction to the work of renovating and modernizing, Canada appears to lead. Of Canadian activity reported, most is devoted to the expansion of existing companies through the building of additional mills in new localities.

Examples of Industry Program . . .

The North

THE UNITED STATES FINISHING CO. An example of new construction and redesigning of old buildings by a New England plant is found in The United States Finishing Co., Norwich, Conn. A general contract for construction and repair at the Norwich plant was awarded to the Associated Construction Co., Groton, Conn. This present program is part of a general plan to modernize the plant as to equipment, buildings, and arrangement of facilities for straight-line operation.

The first step in the over-all plan was taken in 1938 and consisted of the installation of a new boiling and bleaching arrangement.

Present construction is the second step and will provide facilities for the newest in mercerizing and dyeing equipment. The building will be of steel-frame construction, insulated against corrosion, and will have brick outside walls. Roof will be insulated to avoid condensation problems. Lighting will be so arranged that with the aid of modern lighting appliances daylight conditions will be in effect at all times.

This new construction will provide continuous open spaces well over 200 ft. in length, so that synchronized mechanical equipment can be installed to the best advantage.

The company plans are giving the fullest consideration to the need of employing the most modern manufacturing and cloth-handling technique in maintaining the plant's position as a versatile cotton dyeing and finishing unit.

THE LIVINGSTON WORSTED MILLS, INC. Another example of modernization that is under way in New England is that of The Livingston Worsted Mills, Holyoke, Mass. This company has under construction a new dyehouse addition. The plant is a one-story building with basement. It will be air conditioned, and glass brick will be used in place of the conventional sash for insulation purposes. The building will house modern top dyeing and yarn dye kettles and will be fully equipped with overhead conveyors.

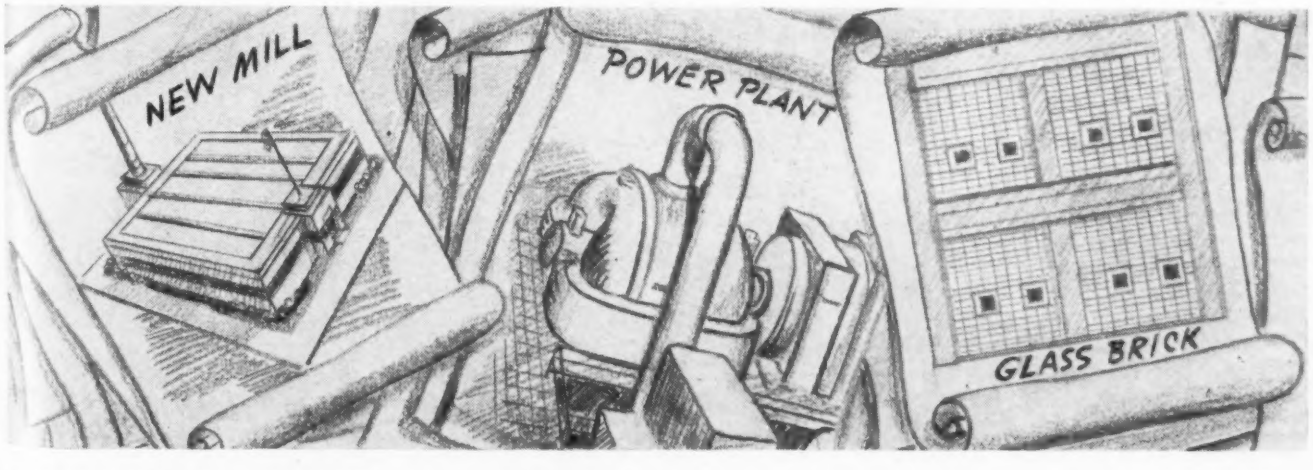
LEBANON KNITTING MILLS CO. This concern, located at Pawtucket, R. I., has started construction of a three-story addition to the front of the plant. It will house an enlarged dyehouse and give additional stock room. In the power plant, another boiler is being added to handle increased process loads required by the dyehouse, and a new chimney is being built.

NEW TEXTILE PLANT. A new textile plant for New Hampshire is to be started shortly, probably at Keene, N. H. This is to be operated by E. F. Timme & Sons, New York; and the mill will be a modern one-story building with a floor area of approximately 350,000 sq. ft. It will cost about $2,500,000. Charles T. Main, Inc., Boston, is said to have the engineering contract.

ENERGETIC WORSTED CORP. In the Middle Atlantic area, one of the modernization projects is that of the Energetic Worsted Corp., Bridgeport, Pa. Cost has been estimated at approximately $150,000, and it will cover only general repairs to the plant. No additional manufacturing floor space will be provided, but provision will be made for the efficient placing and spacing of equipment. Toilet facilities and rest rooms will be modernized. Various frame constructions that were temporary additions will be entirely eliminated.

The South

RIVERSIDE & DAN RIVER COTTON MILLS. Improvements valued at about $2,400,000 are under way at the Schoolfield Dan River Division. Among these projects is the installation of new boilers and generators for the power house. High-pressure boilers will be installed, and it is believed that the principle of operation will be different from that normally employed by most textile mills. Steam at 600 psi., 750° superheat, is to be fed to the turbines;



and exhaust steam at 175 psi. is used in the finishing and dyeing departments. Expenditures for the boiler house are estimated at $900,000.

A filtering-plant project is under way and will be completed in the spring. Cost is placed at $250,000. New capacity should be 8,000,000 gal. per day, just double the capacity of the present system.

Replacement and the addition of new finishing machinery is estimated at $750,000. This is in keeping with the policy of maintaining the plant and equipment abreast of competition in the textile field.

A seven-story cotton warehouse having a floor area of 162,000 sq. ft. and valued at $500,000 will be started in December to provide added storage space. Construction will be of reinforced concrete.

PEPPERELL MFG. CO. The Opelika, Alabama, Division of Pepperell, has already started construction of a new plant to consist of a bleachery, finishing plant, and sheet factory. Cost will be approximately $2,000,000. This plant will enable Opelika to produce sheetings and cases, with complete facilities at one location.

All contracts for the construction of this new addition, including those for new filtering plant, purchase of the machinery, etc., have been let; and it is expected that the plant will be in operation by the middle of 1946.

At the present plant at Opelika, the following work is under way; construction of two new outside stair towers; remodeling and expansion of the opening room to afford a better arrangement and installation of some new machinery; and the installation of air-changing equipment in one of the present weave rooms.

CELANESE CORPORATION OF AMERICA. A strictly modern air-conditioned plant for the production of acetate warp-knit fabric is to be erected at Bridgewater, Va., by Celanese Corp. of America at a cost of approximately $1,000,000.

Grading has already been begun at the Celanese site, which is in the north end of Bridgewater; and a general contract for the construction of the mill buildings has been awarded to the George Hazelwood Co., Cumberland, Md. The general contract calls for the mill building, boiler house and machine shop, garage, roads, sidewalks and fences, and parking and truck-loading areas. The Chesapeake & Western Railway has completed a siding on the property. This project promises to be the biggest in Bridgewater's history and, when developed, will employ several hundred persons.

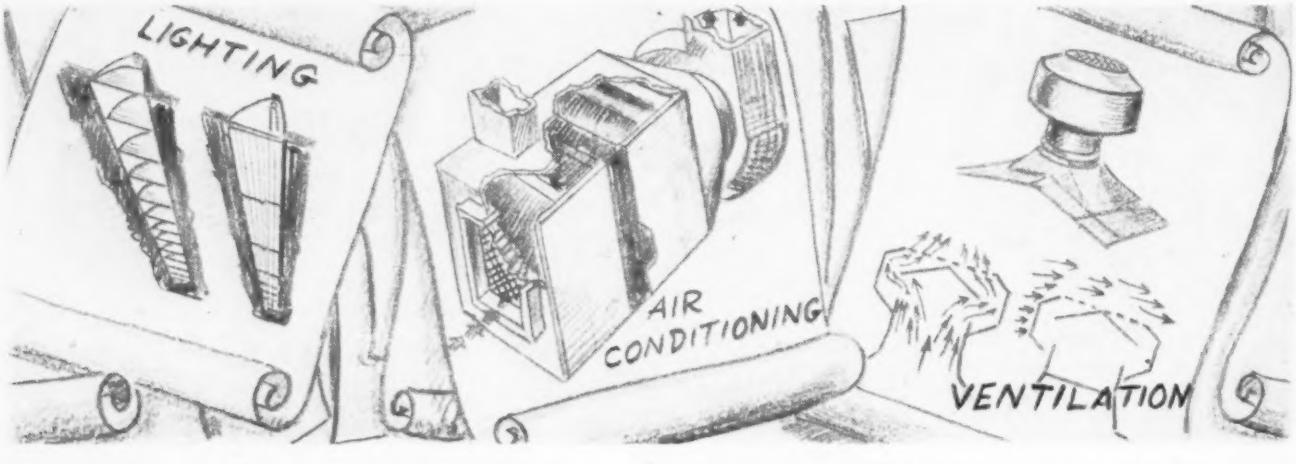
WILLIAM CARTER CO. The William Carter Co., Barnesville, Ga., Division, has plans under way for expansion in different mill departments to permit a 50% increase in production. Enlargement and modernization of the warehouse and possibly the knitting room are contemplated. Also, an expansion of boiler-house facilities may be found necessary. Several of the latest type of washing machine for the bleach house and other improved machinery for the bleaching, dyeing, and finishing of cloth are on order and deliveries are expected soon.

CHICOPEE MANUFACTURING CORPORATION OF GEORGIA. The Lumite Division of Chicopee broke ground on October 22 for a new weaving mill to be built at Cornelia, Ga. The plant is expected to be in operation early in 1946. A one-story building of modern design, this plant will be devoted exclusively to the weaving of Lumite plastic fabrics for use in upholstery, shoe fabrics, and luggage.

BOCAR MILLS, INC. Construction work has been started on a new yarn mill for Boshamer, Inc., at Clover, S. C., under the name of Bocar Mills, Inc. The plant has been designed to produce high-quality combed and carded single and ply yarns. This plant will be housed in a modern, wide-span structure totally enclosed and air conditioned. Carrier air-conditioning equipment will be installed.

Concrete foundations, brick side walls, structural-steel roof framing, and precast concrete insulated roof slabs will be use. The layout and design provide for a minimum amount of handling in all operations. The structure will be sprinklered and equipped with high-intensity fluorescent lighting. Construction work is being handled by C. T. Bennett Construction Co., Kings Mountain, N. C. The plant was designed and erection is being supervised by John A. McPherson Co., engineers of Greenville, S. C.

The building will contain approximately 60,000 sq. ft. of floor space. Walls will be of buff tile, with thermopane strip windows. A central air conditioning system will provide controlled temperature and humidity through evaporative cooling. The roof, of concrete slab with two-inch cork insulation, will be supported on a steel frame with column spacing 20 x 30 ft.



The Mill of the Future . . .

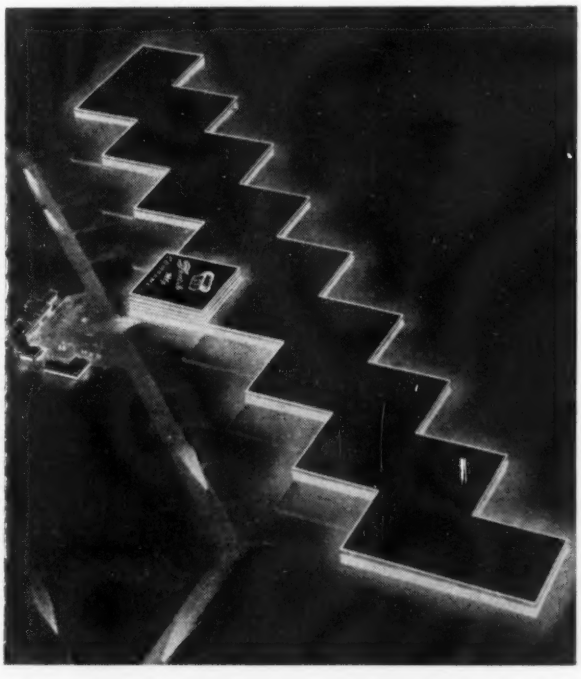
SOME PEOPLE LOOK UPON any consideration as to what the ideal modern textile mill should be like as just an idle pastime; but under present conditions, it is far more than that. The industry is not only in the healthiest financial position it has enjoyed for decades, it has a definite urge to expand and improve. Under these circumstances, contemplation of the ideal mill should serve at least as a guide to all architects and engineers. What the features of such a mill should be is controversial, but below we present some particularly interesting ideas on the subject.

The illustration is an artist's conception of a mill of the future based on a recent study made by the H. K. Ferguson Co., Cleveland, O., industrial engineers and builders. A number of suggested features brought out in this study are described below.

NIGHT VIEW OF PLANT. As air travel becomes the accepted mode of transportation, increasing interest will be paid to plant appearance from the air as an advertising medium.

CENTRAL OFFICES. Located at the center of the plant, but detached, are the central offices for administration. Separate buildings are provided for testing, research, and other functions.

PARKING. With plants located outside cities, parking facilities will be arranged to handle the maximum number of cars with the least loss of workers' time. In each "L" of the mill, parking facilities are provided so that each worker may leave his car outside the particular section in which he works. Lockers and wash rooms are located at the entrance to each department.



MATERIALS HANDLING. Raw materials in bale form will enter at one end of the plant where storage is provided next to the opening room. Mechanical-handling and conveyor systems will keep manual handling of materials at a minimum in each room and in transportation between rooms. All operations will be streamlined for straight flow from the opening room through to the finishing room and into the shipping department at the other end of the mill.

AIR CONDITIONING. Use of air conditioning and refrigeration for obtaining humidity and temperature levels for best processing is a necessity, and greater consideration will be given to these developments for improved worker comfort.

WALLS. It is possible that inclined walls with an outward pitch of 5 to 10% may be used to reflect noise from the working area to an acoustical ceiling that absorbs a portion of the noise. Acoustical ceilings in mills have already reduced noise levels in some sections of weave sheds by 68%.

WINDOWS. While windowless mills may be suited for some industries, it is believed the trend is away from them because of the feeling of claustrophobia imparted to the worker. Use of glass brick permits light but at the same time gives a good seal for efficient air-condition and humidity control with very little moisture condensation.

Cotton-and-Wool KNITTING YARNS Multiply Spinning Costs

HIGHLIGHTS: *Wool top should be selected for diameter, handle, and dyeing qualities—A cross-section of 72 fibers is recommended for substantial yarn—Production should not exceed 7 to 10 lb. per hr. on cards and 100 ft. per min. on drawing.*

By P. M. THOMAS, *Assistant Editor, TEXTILE WORLD*

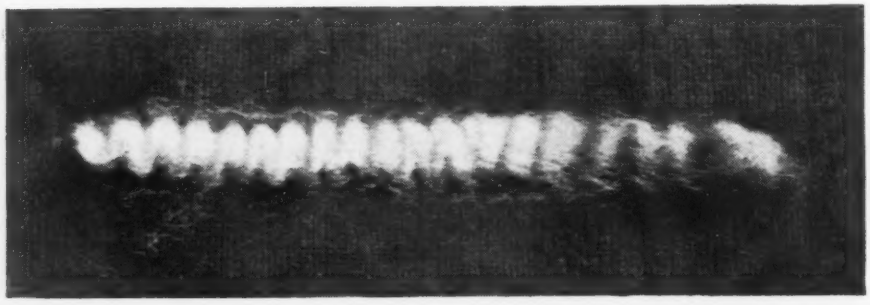


Fig. 1. The wool fibers in their natural state are long and wavy. Most of this waviness must be removed to attain a satisfactory yarn.

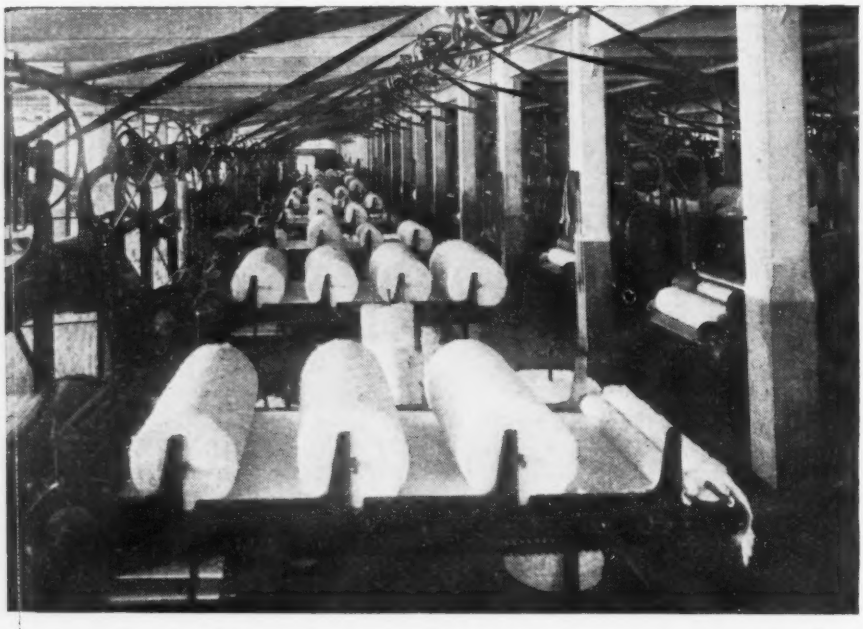


Fig. 2. All-cotton and all-wool laps are made on the breaker picker and blended on the finisher picker in one of the four blending methods now being used by mills.

MORE ATTENTION must be paid to processing costs when manufacturing blends for cotton and wool knitting yarns on cotton machinery than when running only cotton. This is caused by two conditions:

1. The price of wool top is much higher than cotton and other fibers currently being blended with cotton.
2. The peculiar nature of the wool fiber makes processing it into yarn or fabric necessarily more expensive than processing other fibers in blends.

A mill going onto cotton and wool mixes should first study its manufacturing set-up from the standpoint of its capacity for making a high-quality product. This study should include machines, accessories, and personnel. Because of the increased value of the product at all stages of manufacturing, it will be necessary to run the machines at lower rates of production, exact more careful handling from all operators, and step up the efficiency of the supervisory force.

FIBER SELECTION. Once these requirements have been satisfied, the first problem will be the selection of the type of fiber or fibers to yield the end product desired. It has been found by the majority of mills running blends that wool top, although costing more than comber noils, is more desirable for blending with cotton. The excessive amount of short fiber in the noils, and the processing the fiber has received prior to being purchased by the cotton mill, render it as undesirable as cotton waste.

Tops are bought according to definite quality designations, but a mill which uses a large amount of wool should have someone in its organization who has at least an elementary acquaintance with wool and its many characteristics.

Such properties of the knitted fabric as handle, softness, and strength are largely dependent upon the types

of wool used in making the tops. For example, the following all-wool blends (TEXTILE WORLD, August, 1936) yield yarns which are greatly dissimilar in spite of the fact that both are designated as average 60s:

1. A blend of 30% Port Arthur, 30% South Australian, 40% Australian pulled wool for use in suitings. Here the Australian pulled wool might be considered as the "filler," with the Port Arthur added for color and handle and the South Australian added for fullness.

2. A blend of 50% Chubut, 25% Queensland, 25% West Australian for use in knitted underwear. The Chubut (South American) wool is full and springy and makes a good knitting yarn. Softness is obtained by adding the Queensland and West Australian fibers.

DESIGNATION OF TOPS. Wool tops are available in finenesses ranging from 50s to 80s, measuring from 31.5 to 18.1 microns in diameter. Short-staple American cotton (1¼ in. and shorter) averages 15 to 17 microns. As is the case when running all cotton, fabrics of wool and cotton become harsher and weaker as the coarseness of the fibers is increased. A knitted fabric containing 50% short-staple cotton and 50% 80s wool top will be softer and fuller handling than a fabric containing the same cotton and 50% 50s wool top. This is assuming, of course, that the same types of wool are used in the 50s and 80s blends and that the only difference is in fiber diameter.

Aside from softness and handle, wool fibers should be chosen with an eye upon spinning a substantial yarn. This requires a sufficient and relatively uniform number of fibers in the cross section of the yarn. Rayon research has established that 72 fibers should be present in a cross section of rayon yarn, but so far no similar standard for spinnability has been established for cotton or wool. It undoubtedly would be safe for a mill processing wool and cotton blends to accept tentatively this number and, if spinnability or end-product quality indicates the need, begin there with corrective experimentation.

The number of fibers in the cross section, naturally, ties in somewhat with yarn strength; but because of the appreciably lower strength of wool than cotton, yarn strength alone would not be an adequate guide until considerable manufacturing data had been accumulated.

DYEING QUALITY. Another factor which enters into wool-fiber selection is the affinity of the wool type to dyes. Different grades of wool have different dyeing characteristics, and in some cases this difference becomes marked. Broadly speaking, pulled wools do not lend themselves to bright colors with good luster as do the finer wools which handle lightly. This quality must be considered in the light of the end products. Unless a mill plans to go into wool and cotton blends extensively enough to justify expenditures for wool dyeing, it would be advisable to buy dyed tops and blend them for the shade desired.

Commercial wool tops are received by the mill in cases of 200 to 250 lb. each. The cases are filled with balls ranging from 5 to 15 lb. each, wound in ropes of long wool fibers. This rope, usually weighing from 4 to 8½ oz. per 10 yd., must be cut in the desired staple length on a fiber cutter.

CUTTING THE WOOL STAPLE. Different models of cutters are available, but a representative model handles six ropes at one time. They are creeled in the back of the machine as sliver is creeled into a drawing frame. The feed rolls deliver the ropes onto a cutting plate somewhat comparable to the nose of a lickerin feed plate. Revolving blades, acting after the manner of the blades of a lawn mower, cut the rope at the edge of the cutting plate.

The speed of the delivery rolls can be adjusted to deliver the staple length desired between strokes of the blades. However, it is advisable to check the staple being cut by actual measurement with a rule at frequent intervals.

The methods now being used by the mill for cleaning and blending cotton must be continued, and it very likely will prove profitable to increase cleaning in the opener room in order to clean lightly at subsequent processes. In order to prevent the loss of expensive waste at the picker and card, these machines should be used for blending rather than cleaning.

Since wool varies extensively from lot to lot, and at times from case to case, it is advisable to put the wool through a preliminary blending process, such as blending hoppers or an opener, or both. If more than one color of wool is used, each color should be blended separately.

FIBER LUBRICATION. A lubricant should be distributed on the wool stock during the blending process. If all-wool laps are to be made, the oil can be introduced at the picker. The amount and kind of lubricant can be determined only by the mill itself, because this process is done entirely to aid local manufacturing conditions.

It is likely that the wool in the blend will need more lubricant than most mills apply to cotton. The prime necessities are to use the right amount and to distribute it evenly. Much of the running quality of the stock and the smoothness and uniformity of the yarn will depend upon this oiling. Too much oil, as too much humidity, will cause choking and lapping; and too little will cause excessive fly, waste, and brittleness of the yarn.

This preliminary process accomplishes four things: (1) it causes the fibers to bloom to their natural, uncompressed state; (2) it allows their humidity content to become uniformly adjusted to opener-room con-

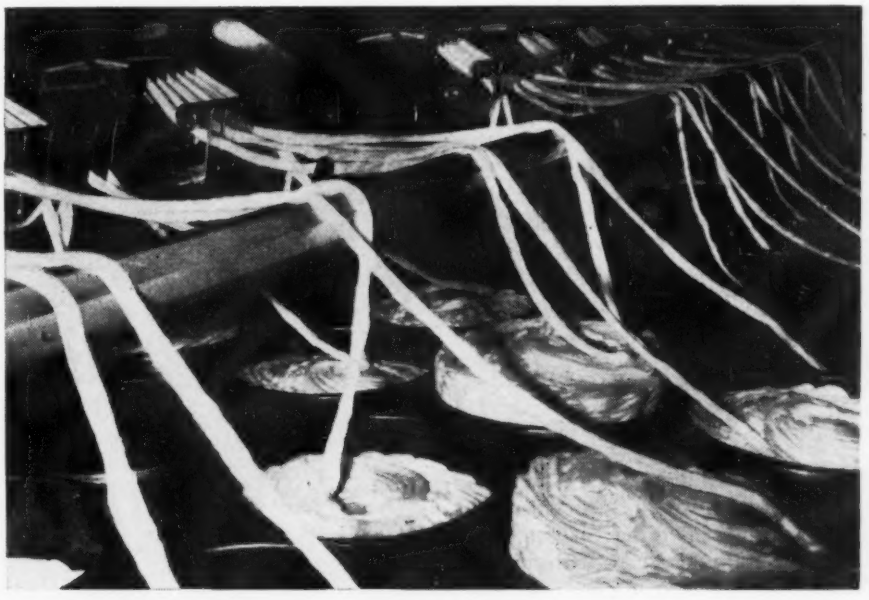


Fig. 3. To prevent elongation and breakage while the sliver is being drawn from the can, small trumpets and proper coiling speeds should be used on cards and drawing.

ditions; (3) it yields a uniform blend of several lots of wool; and (4) it lubricates the fibers for better processing.

BLENDING COTTON AND WOOL. The beginning of the picking process is the critical point of the cost of processing wool and cotton blends. Each mill must decide, often by trial and error, whether the two fibers will be blended on the picker or at a later process. It must be remembered that the raw-product cost is high, that waste is proportionately more expensive, and that the woolen and worsted mills do not attempt to approach cotton mills in low unit-production costs.

Consequently, blending cannot be approached on a basis of comparison with the processing cost of cotton. Instead, it must be determined entirely upon the quality requirements and the cash return of the finished yarn or fabric.

As is the case in blending synthetic fibers with cotton, the wool and cotton may be blended at a number of points of the manufacturing process. Four methods are currently used by mills:

1. "Sandwich" blending, which entails laying down a blend of wool and cotton in a blending room and feeding the pickers by hand.
2. Finisher-picker blending, which combines all-wool and all-cotton laps into a single blended lap.
3. Carding before blending, which necessitates carding the cotton, blending it with wool into a lap, and recarding it.
4. Breaker-drawing blending, which allows wool laps and cotton laps to be made and carded separately, and combined on the drawing frame.

ARMY-NAVY MERINO. There are advantages and disadvantages to each of these methods, and the one chosen must be based on the end product. For example, the merino yarns used for making underwear for the Army and Navy required a certain shade of gray in the 50% cotton and 50% wool mix which was attained by the following proportions: 500 lb. cotton, 450 lb. undyed wool top, and 50 lb. black wool top.

Reduced to percentages, this blend is as follows:

50% cotton
45% undyed wool
5% black wool

A blend of these proportions prohibits blending at the drawing frame because of the uneven distribution of color which would result.

Any of the other three methods can be used; but if the finisher picker were chosen, it would be necessary to blend the white and black wools prior to blending with cotton. Because of the importance of close weight control of the three elements of the blend, much manual handling is required; and in actual practice, blending methods No. 2 and 3 become modifications of the sandwich method.

The precarding practice has the advantage of putting the cotton into a state of cleanliness more nearly comparable with the wool. Precarding is almost a necessity to produce average and better grades of blends unless the mill (1) uses a good grade of clean cotton or (2) has a better-than-average cleaning capacity in the opener room.

CONTROL WASTE. From the point at which the cotton and wool is mixed, the cost of waste becomes the dominant consideration. Roughly, a pound of wool-top waste is worth five to six pounds of cotton waste; and much of the cleaning done by the picker and card must be sacrificed in order to prevent waste.

A mill going to cotton and wool blends should closely examine the elements of cost—raw product, processing, yarn price, etc.—to determine the waste allowance which would amount to the difference between a profit and a loss. A definite program of waste control should be established which would specify the following standards:

1. Amount of waste allowable at each point of waste removal.
2. Comparative richness with wool and cotton.
3. Schedule of disposal (sell or reprocess).

Thus, the emphasis of the mill's testing program should be placed, not only upon the finished yarn, but also upon the machine parts, settings, and speeds.

Grid bars on the pickers should be closed, or a solid metal sheet placed over them. Some mills have found it advisable to have a lengthwise slot in the screen to permit proper air drafts and to remove a small amount of linter-type fly.

Since the cotton should be clean when the blend is made, blade beaters on the pickers should be replaced by Kirschner beaters, and the speeds reduced. Many mills have also found that lower over-all picker speeds yield more satisfactory laps.

In common with blending any fiber with cotton in lap form, wool and cotton blends are likely to cause picking trouble in the form of laps which are soft, hard, or which split on the card.

The simplest remedy for splitting laps is to run a few ends of roving between the layers of the lap. In extreme cases, it may be advisable to

(*Continued on page 206*)

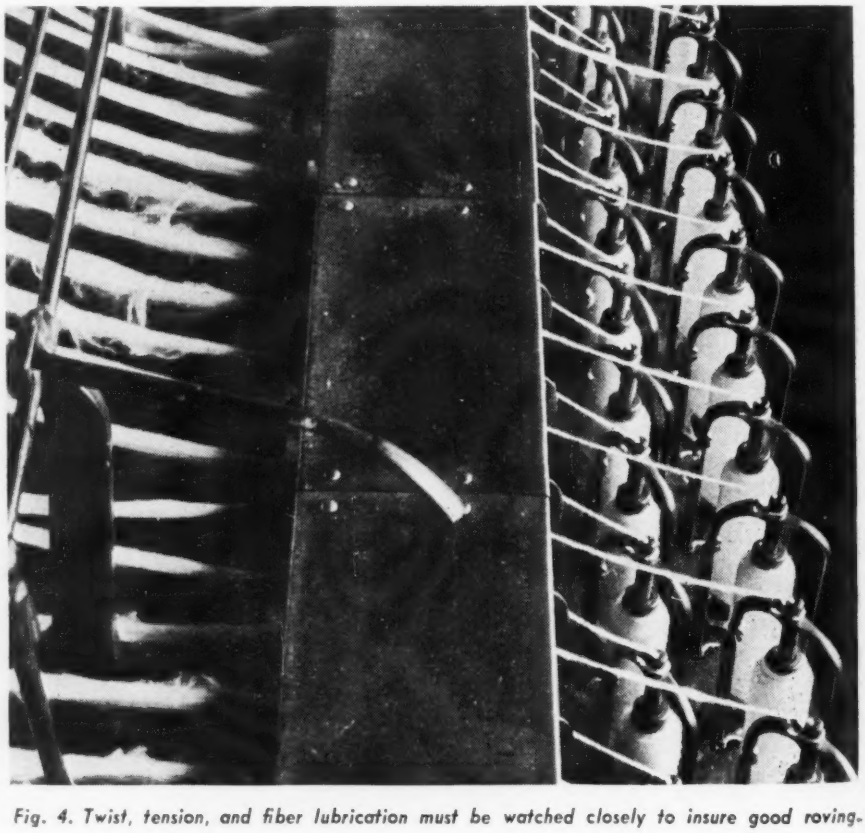
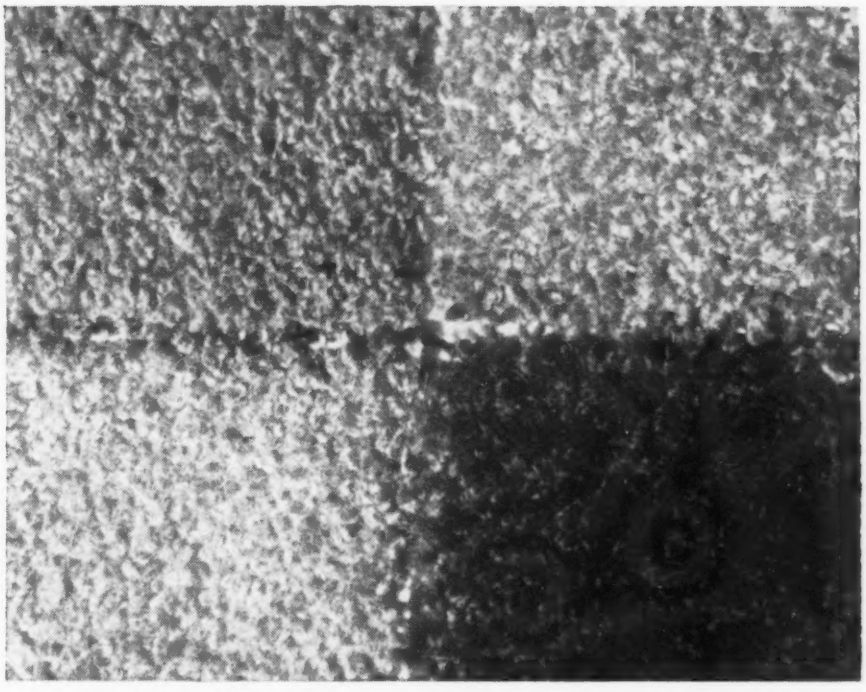


Fig. 4. Twist, tension, and fiber lubrication must be watched closely to insure good roving.

Current Trend May Force FAST COLORS FOR RUGS

HIGHLIGHTS: *Additional cost per rug is very little—Self-toned carpets, wall-to-wall covering, sunny rooms intensify need for the faster vat colors — Special viscose rug staple can be dyed to match rug wools.*

By LESLIE L. WALMSLEY
Textile Research Department
American Viscose Corp.



These samples of postwar rugs show solid colors which must be fast, and must be put on stock rather than yarn to avoid an uneven appearance.

VARIOUS FIBERS have been used in the past for manufacturing carpets—cotton, linen, hemp, jute, and cocoanut fiber—but it was conceded that for the most durable and most luxurious carpet an all-wool pile was necessary. When in use, only the wool pile is evident, and for this reason good carpeting came to be thought of in terms of all-wool pile and has continued to be so regarded until recently.

For years, almost all carpets were in multicolor designs for which dyed yarns were used. Dyeing yarns, rather than stock, is preferred because it eliminates colored waste in making yarn and it is easier to spin natural stock than dyed stock. But with the advent of volume production of high-styled self-toned carpets, a great many difficulties arose which were not apparent before.

It was found, for instance, that yarn-dyed carpets showed streakiness in single colors due to the fact that it was impossible to produce exact matching of a single color in the several batches of skein-dyed yarn necessary to make the whole carpet. In order to overcome this, dyeing of the raw stock or loose wool was resorted to; and several batches were blended to make a single color. Again, stains which were not visible on a multicolored design were painfully glaring when on self-toned carpets. This led to an attempt to develop fast colors.

Since carpet wools are mainly imported from South America, India, China, Asia Minor, and the British Isles, it is necessary for manufacturers or importers to carry a high inventory in order to assure maintenance of production. A product which would possess the best features of carpet wools and be available domestically in sufficiently steady quantities, would eliminate the necessity for mills carrying high inventories of materials from far-away lands.

Rayon fibers of the standard viscose types presented the desired economy features, but lacked the characteristics of soil resistance, resilience of pile, and wearability that are so necessary for quality floor coverings. After several years of research, a special rayon staple fiber was developed which provides in good measure the economic advantages and the necessary physical characteristics. This staple is a tough, resilient rayon available in varying denier sizes to conform to the varying diameters of carpet wools. It blends admirably with the wool to

(*Continued on page 212*)

Typical formulas for light rose vat color for wool and rug staples.

STAPLE—50 LB. TUFTON	
	2 lbs. Igepon 4 oz. T.S.P. 10 min. at 160°F.
Add dye in 4 equal parts 5 min. each	0.315 lbs. Indanthrene Brown BRA 0.015 lbs. Indanthrene Rubine RA 67%
Run 5 min. and add Continue 20 min. and rinse off and oxidize	2.5 lbs. caustic soda 3.0 lbs. hydrosulphate
Add Boil 15 min.	1 pt. hydrogen peroxide 150 15 min. ½ lb. Igepon
WOOL—50 LB. CARPET TYPE	
Scour	1 qt. ammonia 120°F. ½ hr.
Dye	0.035 Anthralan Red BA-CF 0.016 lbs. Brilliant Alizarine Milling Blue BL 0.019 lbs. Alizarine Light Brown BL* 200 cc. acetic acid (56%)
Start at 120°, raise to boil in ¾ hr. Boil ½ hr.	

Quality Demands of NARROW FABRICS Reduce Loom Efficiency

HIGHLIGHTS: *World War II Victory ribbon was woven with 21 warp colors—Warp rolls consist of 12-in. double-head spools—Complex system of controlling weaving tension used by the Merit Co.—Moire machine crushes the picks of filling in the woven ribbon.*

By GEORGE GROSSGEBAUER,
Manager, Merit Co.

THE MANUFACTURE of quality narrow fabrics requires techniques and degrees of skill among the highest found in the textile industry. More than 250 weaving patterns were used by the Merit Co., Paterson, N. J., in processing Armed-Service ribbons alone.

The most difficult of these patterns was the World War II Victory ribbon, recently announced as to be distributed to 12 to 13 million service men and women. Among the problems encountered were those of preparing and weaving a 21-color warp and finishing the ribbon with a French saw-edge.

Using a warp of 2-thread 50-den. Bemberg organzine yarn, the Victory ribbon was woven 80 picks per inch with white filling of 6-ply, 2-thread, 50-den. Bemberg.

Photos by Mina Glaspell

YARN PREPARATION. The yarn is received by the Merit Co. in 20-lb.

Fig. 1. Skeins of 15,000 yd. each are being wound onto fiber winder spools by Emma Bunting, Sipp-winder operator.

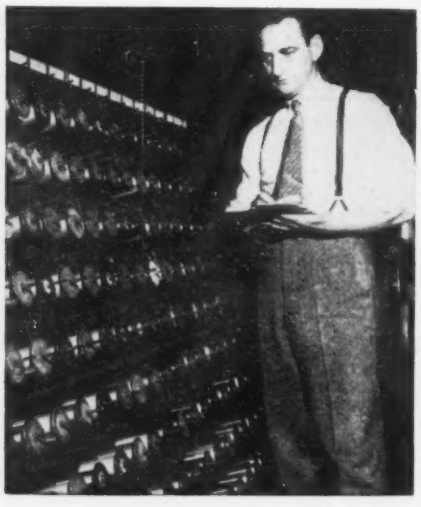


Fig. 2. The 21-color warp for the World War II Victory ribbon. The author compares the creel scheme with the warp chart.

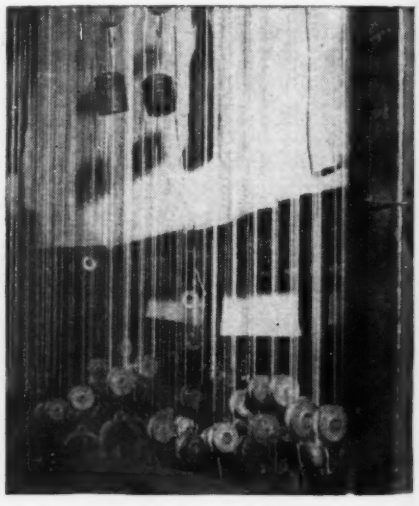


Fig. 3. Weights which control the weaving tension of the warp are based on 1½ lb. per 100 ends.

bundles, each containing 144 skeins of 15,000 yd. each. After being dyed, the skeins are wound by a Sipp ribbon winder onto fiber winder spools.

A silk horizontal warper is used for combining the yarns in the desired color scheme, since this method of warping is best adapted to complicated patterns and relatively small runs.

The take-up package, which also serves as the loom beam, is a 12-in. roll resembling a double-head twister spool. It is driven by a motor roll-off warp jack. In the case of the Victory ribbon, five of these rolls were required for each space (ribbon) of warp. Since there is no slashing process, the technique at the Merit Co. is to combine the rolls directly on the loom.

CREELING THE LOOM. The warp rolls are placed on the loom creel somewhat after the manner of creeling a twister. One flange of the roll is equipped with a protruding screw which fits into a horizontal slot near the base of the creel spindle. This slot and screw prevent the yarn on the roll from unwinding, thus permitting the control of warp tension peculiar to quality narrow-fabric weaving.

After the five loom-rolls per space have been placed in the creel, the warp yarns are extended over the horizontal bar which forms the top of the creel. Another bar, similar to this one and running parallel with it, is fixed at the same height about a foot nearer the back of the loom. The warp yarns are also extended over this second bar, and the space between the bars is used for controlling the loom tension.

Fig. 4. Warp ends are attached to ends in the harness by twisting them together.

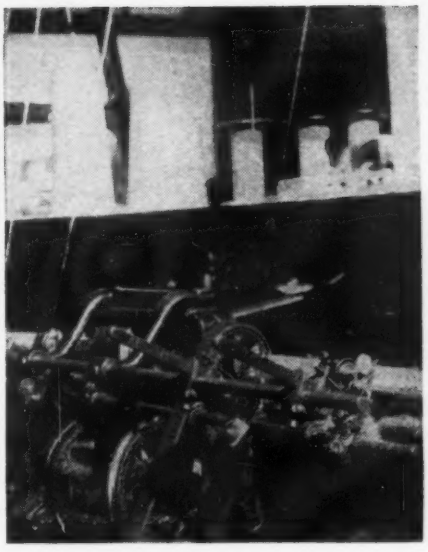


Fig. 5. Filling is wound from cones onto filling quills on a Universal filling-winder.

Control of tension is accomplished by placing a roller, from which a tension weight is suspended, over all the yarns from one loom-roll. When running the Victory ribbon, the weight used was on the basis of 1¼ lb. for 100 warp ends. Heavier fabrics, such as those for men's suspenders woven from 300-den. warp with six-ends 40/2 mercerized cotton filling, require additional tension weight.

ADJUSTING TENSION. Since five loom-rolls were needed for each space of the Victory ribbon, five separate tension weights also were necessary. Yarn from the warp roll is unwound by hand until the tension weight is about an inch from the floor. As the loom operates, this weight is gradually drawn toward the top of the creel. When it "weaves to the top," the weaver must stop the loom, take each roll off the creel, and allow the roll to unwind until the tension weight is again just off the floor.

A single-deck loom, used for fabrics of highest quality requirements, weaves

Fig. 6. Hazel Krattiger, weaver, puts a new quill of filling into a shuttle in a Fletcher double-deck, high-speed ribbon loom.

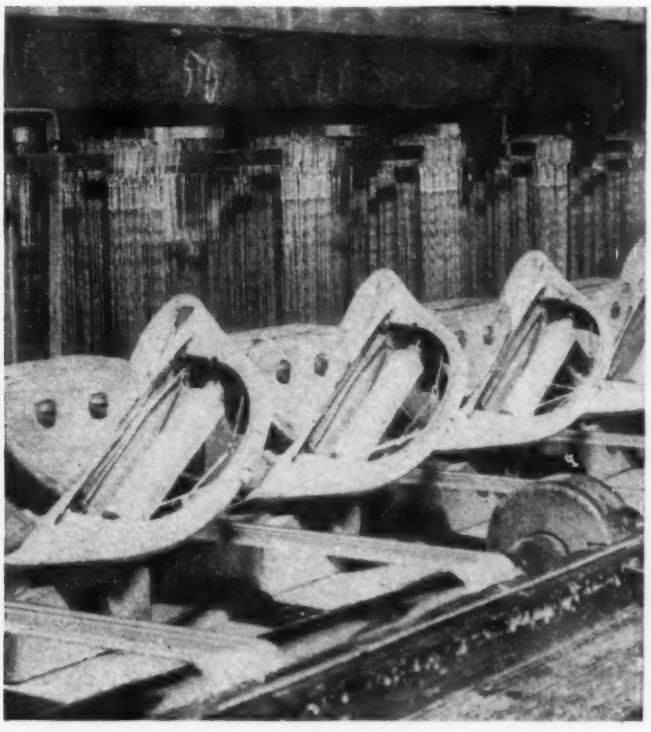


Fig. 7. The shuttles of the Fletcher single-deck loom operate with a semicircular stroke. These filling quills are 3 in. long.

Fig. 8. The ribbon looms do not have a take-up roll. Charles Hasselman, loom fixer and cutter-off, reels the ribbon and cuts it in the desired lengths.

36 ribbons simultaneously. Thus, a total of 180 tension weights must be lowered one at a time by the weaver.

The amount of warp let off each time the weights are lowered will make 4 yd. of ribbon, and the loom weaves 1½ yd. per hr. Consequently, the weaver must drop weights each 2⅔ hr. Much production time is lost as a result of this method of controlling tension, and a mill can afford to use it only when producing a premium product.

Narrow-fabric looms equipped with automatic tension controls are available, but the Merit Co. prefers the method described because the quality demands of its products make selective and highly accurate tension control necessary.

Loom harnesses are made to order by a supplier, and the warp ends are attached by manually twisting them to the ends drawn in the harnesses.

WINDING FILLING. Filling yarn is received on cones and transferred to 3-in. quills for single-deck looms or 2½-in. quills for double-deck looms. For the Victory ribbon, requiring 6-ply, 2-thread, 50-den. filling, it was necessary to ply the yarn on the Sipp winder prior to winding it onto quills on the Universal winder.

In the weaving operation, the quills of filling are placed in the shuttle by the weaver. In the single-deck looms the single row of operating shuttles move through the warp shed with a semicircular stroke. Shuttles in the double-deck looms operate with a horizontal stroke. Both types are Fletcher highspeed looms.

The single-deck looms, 18 ft. in length of frame and operating at a speed of 100 picks per min., are used for the mill's highest-quality work. The double-deck looms, 15 ft. 8 in. in length and, operating at a speed of 116 picks per min., are used for greater production and lower quality. They weave 46 ribbons each.

JACQUARD HEAD. The harnesses are controlled by a jacquard head mounted on the side of the loom. The design is made on cards, four of which form a square which revolves each four picks. Pins dropping into the design holes in the cards act as triggers for the levers which lift the harnesses.

Power for driving the shuttles is transferred from the shaft to the loom batten (corresponding to a lay) by shuttle straps which drive a band gear extending through the length of the batten. A ratchet gear, engaging with this band gear, meshes with teeth on the underside of the shuttle. The reciprocating action of the shuttle straps, created by cams, acts in a like manner on the bear band, and, consequently, on the shuttle.

MOIREING AND FINISHING. The woven ribbon is reeled off in the length in which it is to be sold, and cut. The Victory ribbon was finished in 50-yd. lengths. If the ribbon is not to be moireed, it is rolled and packed for shipment. For moireing, the ends of the 30-yd. lengths are sewn together to make rolls of 200 or 300 yd.

The moire machine consists of a top and bottom roll of horizontally grooved steel and a middle roll covered with hard paper. The steel rolls are heated with a gas-and-air flame to a temperature of 220° F. The process is a combination of crushing and pressing the filling picks of the ribbon to obtain the wavy, or watermarked, appearance.

The number of grooves in the steel rolls must correspond with the number of picks in the fabric. The Victory ribbon, having 40 picks per in., was moireed with a roll having 40 grooves per in.

The production of the machine is 15 yd. per min. for ribbon. The machine shown in the photograph will process four ribbons simultaneously. This number may be increased or decreased according to the widths of the ribbons.

After moireing the ribbon is measured, cut, and rolled into the lengths desired.

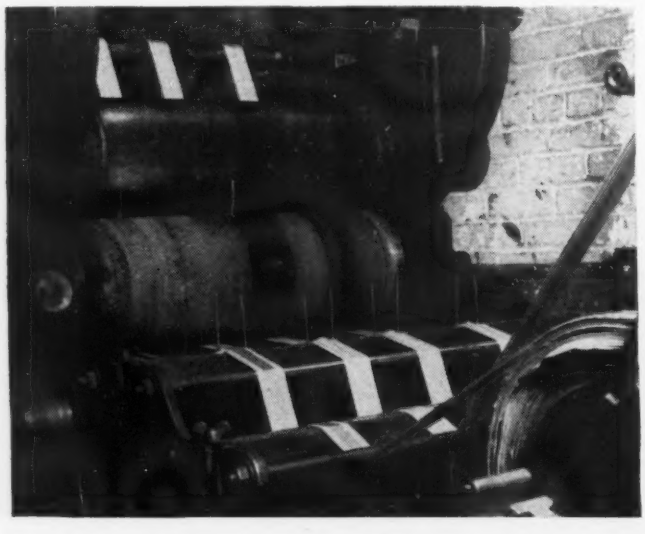


Fig. 9. The moire machine crushes the filling picks between the top or bottom steel roll and the middle paper-covered roll. The steel rolls are heated to 220° F.

Fig. 10. The blocking machine, operated by Josie St. Almond, measures and rolls the ribbon into the shipping package.

WIDER WOOL CARDS—
Answer to Cost and Production Problems

By GUSTAV ZELLNIK
Consulting Textile Engineer
Newburgh, N. Y.

HIGHLIGHTS: *On wider machines, operators can watch 144 or 168 ends in place of 120—Light metals helped overcome limitations of card widths—Wide machines used extensively in Europe.*

HOW TO OVERCOME the cost problems which arise in connection with the demand for higher wages is a very serious problem especially if an increase in the sales price is not granted—as is often the case because of rulings of OPA. Sometimes, the manufacturer can absorb a certain part of the wage increase, but there is a limit to this.

The inexperienced might try to speed machines, but to know how far to go so that quality is not impaired requires the knowledge of a thoroughly experienced man. Usually when the manufacturer asks for an increase in output, the foreman will speed up his machines; but when the quality of the fabric is not satisfactory, the foreman has one excuse—he was forced to sacrifice it.

But there are ways other than speeding up cards to meet higher wages without increasing the price of the final wool fabrics; and some of my clients have lately asked me about possibilities in the adoption of 72-in., and even 80-in., cards as a means of lowering production costs.

In many European countries where the woolen industry has reached a high quality standard, 72-in. and 80-in. cards have been utilized for 30 to 40 years; and the quality is so satisfactory that we in America are afraid of the competition, should the tariff be lowered. If we really think that the quality of the good European cloth is a menace to our production of woolen cloth, why should we not introduce the same machines here to check the competition and to make bearable the higher wage demand.

COMPARISONS. To show comparisons of 72/60-in. and 80/60-in. cards with 60/60-in. cards the accompanying tables were prepared. The production figures for a 60/60-in. card are based on a Davis & Furber production table for tape-condensers, and calculations are based on 2- and 3-run yarn. The 2-run yarn, covered in Table I, is equal to 10⅜ cut; that is, 109 grains per 50 yd. To make this yarn, roving is as follows: 1½-run roving equal to 8 cut; that is, 146 grains per 50 yd. The roving output on the card is given for various drum speeds of the tape condenser. The drums on the tape-condenser have a 6¾ in. diameter. The drum speed naturally depends on the quality of the raw material. It is up to the boss carder to decide what speed he can run his cards without spoiling the quality of the roving and to get an even and round thread.

Table II shows another example, based on 3-run yarn equal to 16 cut; that is, 73 grains per 50 yd. To make this yarn, roving is as follows: 2¼-run roving equal to 12 cut; that is, 97 grains per 50 yd.

There are many mills which are running yarn from 3 run up. Mills which already know what they will manufacture in the future can use cards where the number of good ends on the tape-condenser can be much higher. A production table for running higher counts of yarns is given in Table III.

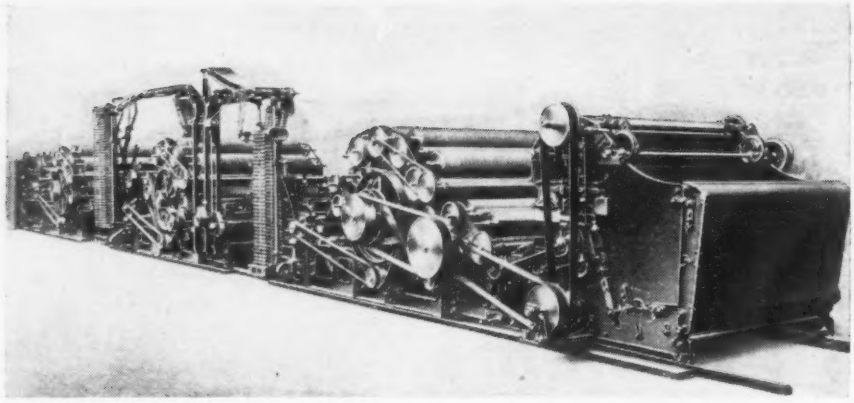
There is no comparison of the production of a 80/60-in. card with 192 good ends, because so many ends on a wide card are not desirable although there exist some of these cards in European countries. After studying

TABLE I. Production per Hour—2 Run
(147 grains per 50 yd. of roving)

Drum speed	Pounds from 60/60-in. card 120 good ends Efficiency			Pounds from 72/60-in. card 144 good ends Efficiency			Pounds from 80/60-in. card 168 good ends Efficiency		
	100%	90%	85%	100%	90%	85%	100%	90%	85%
25 r.p.m.	45.00	40.50	38.25	54.00	48.60	45.90	63.00	56.70	53.55
31 r.p.m.	55.00	49.50	46.75	66.00	59.40	56.10	77.00	69.30	65.45
37 r.p.m.	66.00	59.40	56.10	79.20	71.28	67.32	92.40	83.16	78.54
43 r.p.m.	77.00	69.30	65.45	92.40	83.16	78.54	107.80	97.02	91.63

TABLE II. Card Production per Hour—3 Run

Drum speed	Pounds from 60/60-in. card 120 good ends Efficiency			Pounds from 72/60-in. card 144 good ends Efficiency			Pounds from 80/60-in. card 168 good ends Efficiency		
	100%	90%	85%	100%	90%	85%	100%	90%	85%
25 r.p.m.	29.00	26.10	24.65	34.80	31.32	29.58	40.60	36.54	34.51
31 r.p.m.	37.00	33.30	31.45	44.40	29.96	37.74	51.80	46.62	44.03
37 r.p.m.	44.00	39.60	37.40	52.80	47.52	44.88	61.60	55.44	52.36
43 r.p.m.	51.00	45.90	43.35	61.20	55.08	52.02	71.40	64.26	60.69



Wide-cards, such as shown here installed in a European plant, can be further improved by means of a much larger doffer.

all these figures, these tables should be impressive enough to show the difference in the production of a card and what can be accomplished by enlarging the width of the machine. Without increasing the speed, a 72-in. card produces 20% more, and a 80-in. card 40% more roving than 60/60-in. standard card with 120 good ends on the tape condenser.

It is best to work with a medium speed to get the desired output and keep quality standards. The tables do not give all drum speeds (27-29-33-35 r.p.m. etc.), but from those given others can be figured.

WHY OPPOSITION. Why are there still in this country many opponents of wider cards? There was a time in Europe when wider cards gave trouble and produced uneven yarn. One of the reasons was that wooden workers and strippers were used. Wood expands and shrinks, and the setting of wooden workers is never so accurate as iron workers and strippers which were introduced later. Also, the help did not like to lift heavy iron workers when taking them out of the machine for stripping or repairs on the card. When aluminum workers came into existence, these troubles were eliminated. Iron or aluminum workers are easier to set; when gaged, no change takes place in the distance between workers and cylinder. The unevenness of the roving on top and bottom spools is corrected.

Another trouble started at the beginning of the carding processes. It was the uneven distribution of fibers on the scale of the feed box. But if the feed box is evenly fed and not allowed to run down or if there is no more material put in one part of the feed box than in the other, there is nothing to fear. The scale on the feed box is built very accurately, so that it can be considered a piece of precision textile apparatus.

There is another reason for the evenness of the yarn (roving) on wider cards. Many mills in Europe have the so-called Belgian system in which the first cylinder makes laps or rolls which are weighed. For instance, a lap or roll of 10 lb. is put on the second cylinder which, when it reaches the doffer, is combed off and makes laps or rolls. Then two or three of these rolls are put, one on top of the other, on the feed table of the third cylinder (finisher), and the final thin web goes through the dividing rolls to the tapes and through the rub rolls which make the roving. The advantage of the procedure is, first of all, better control of the weight and, secondly, better blending of the mixture.

This carding process needs very experienced help and is comparatively complicated and expensive. There still are mills in the United States which successfully apply the Belgian system for the production of very fine and high-quality yarn. But on modern cards with their precision weighing apparatus, as mentioned before, iron cylinders and aluminum workers (even light metal workers) are able partly to eliminate that complicated process. To do a good carding job, in particular when manufacturing mixed-colored blends or blends with different types of raw-materials, a center draw feed can be introduced after the first cylinder, or even after the second cylinder, to permit a more thorough carding and more even blending and to avoid, sometimes, the evil of specks and nips in the yarn.

In America some old mills are turning out a high-quality fabric and have an Apperly feed after the first and the second doffer. The yarn coming out from these cards is clean. We have conquered these troubles, and the wider cards are not giving an experienced boss carder more worries than our 60/60-in. standard cards.

BUILDER'S STATEMENT. A textile-machine manufacturer has written that 72-in. cards for woolen work are just as accurate as 60-in. standard cards, and he guarantees that a 72-in. card will be as satisfactory in construction and maintenance as a 60-in.

The time is not too distant when the card manufacturer probably will make the same statement for 80-in. cards. Nevertheless, we cannot use these wide cards for every raw material and for every size of yarn. The coarser the raw material or the lower the size of yarn, the less ends are advisable. Although books might be written about these problems, there comes a time when the experienced

TABLE III. Card Production per Hour—3 Run

Drum speed	Pounds from 60/60-in. card 144 good ends Efficiency			Pounds from 72/60-in. card 168 good ends Efficiency		
	100%	90%	85%	100%	90%	85%
25 r.p.m.	34.80	31.32	29.58	40.60	36.54	34.51
31 r.p.m.	44.40	39.96	37.74	51.80	46.62	44.03

TABLE IV. Yearly Card Production—2 Run

Drum speed	Number of shifts	Pounds from 60/60-in. card 120 good ends Efficiency		Pounds from 72/60-in. card 144 good ends Efficiency		Pounds from 80/60-in. card 168 good ends Efficiency	
		90%	85%	90%	85%	90%	85%
25 r.p.m.	One shift:	81,000	76,500	97,200	91,800	115,200	107,100
	Two shifts:	162,000	153,000	194,400	183,600	230,400	214,200
	Three shifts:	243,000	229,500	291,600	275,400	345,600	321,300
31 r.p.m.	One shift:	99,000	93,500	118,800	112,200	138,600	130,900
	Two shifts:	198,000	187,000	237,600	224,400	277,200	261,800
	Three shifts:	297,000	280,500	356,400	336,600	415,800	392,700

man has to step in and decide where wider cards can be used instead of 60/60-in. ones, how far one can go in the width, and how many ends the tape condenser may have.

In Europe, for instance, many card-builders like Josephy of Poland, Duisberg-Bouisson of Belgium, and Hartman and also Schwalbe of Germany are the banner-bearers for wide cards; and there is no trouble in using these machines.

It is inadvisable, however, to order wider cards before one is sure that they will serve the same as the so-called 60/60-in. standard cards. Discuss this problem with experienced men who have worked on these machines and know their limitations and their advantages. Consider the type of raw materials used and the size of roving wanted and then you can then come to the conclusion how wide a card and how many ends are useful for your mill.

It is interesting to know that there are in America a few mills which have foreign cards wider than 60-in. and they are turning out high-quality fabrics known throughout the nation. Why should not a wider card than 60-in. be standard equipment of our woolen industry? We have right here in this country card manufacturers who are able to do the same good job as the foreign ones, if not better.

The more roving is turned out, the cheaper the production costs. To illustrate this, consider Table IV. It is based on 2-run yarn (by making 1½-run roving) for the yearly output of a card working 8-hr. shifts for 5 days weekly, 50 weeks a year. Taking the lower speed shown in the table, it is an excellent production job to turn out either 345,600 lb. or 321,300 lb. of 2-run yarn on one card in three shifts in 250 working days. This would have been especially important during the war when the need for Army fabrics was so great.

OTHER DIFFERENCES. Wider cards are usually built with bigger doffers than 30-in. or 36-in. diameter. A 42-in. doffer should be used on all three cylinders of the card. There are cards with 42-in. doffers on the first and second cylinders and a 48- or 50-in. doffer on the third cylinder. Sometimes, 48-in. doffers are used all the way through.

A bigger doffer is advisable for a better product from a carding machine. Many carders have the idea that a doffer is more or less a necessary part of the card to enable the web to be taken away by the doffer comb, or that when two cylinders are coupled, the doffer is more or less a transport roll. Consider that it means a strain on the fiber to run over the workers and to be taken away by the strippers, to run on the cylinder—not to forget the fancy. If a human being is working hard, he needs a rest period to get in shape again and to be able to continue his work. This holds true also for the fibers of a blend.

As fibers are taken to the cylinder, the workers and strippers do hard work on the fibers to comb them, to take out things which should not be in; and finally the fibers go to the doffer. Here they relax; and the bigger the doffer, the more time the fibers have to calm down before being taken to the next cylinder which does more strenuous work on them as they run through.

Of course, a card having a 48-in. doffer cannot be built the same way as a card with a 36- or 42-in. doffer. A 48- or 50-in. doffer is usually not all above the floor level. To build a 48- or 50-in. doffer above the floor level, one must either lower the number of workers or build the frame too high for the cylinder. Both would be wrong, not only from the viewpoint of engineering, but also from the viewpoint of carding. It is important to have a certain number of workers to do a good job, and it is also important not to make the machine higher than is comfortable for the help that has to strip it. Therefore, by using a bigger doffer than 42 in., it is advisable to go a little below the floor level for a small part of the circumference of the doffer. Mills using cards with larger doffers usually have the card room located on the ground floor.

Although the reconversion period has arrived for the woolen industry and many mills are replacing old equipment with new machines, there still is time to consider whether it would be advisable to work on wider cards than are used now. In five or ten years the European textile-machinery industry may furnish the big cards to all parts of the world—we have to be a step ahead to meet competition favorably. We may not rest, otherwise we rust.

MULTI-FILAMENT VELON
Is Newest Synthetic Yarn

HIGHLIGHTS: *Firestone is preparing for commercial production of new multi-filament yarn based on its war-time monofilament Velon—Style show held to display fabrics.*

A NEW MULTI-FILAMENT textile fiber developed from monofilament Velon was announced at a style show held Oct. 31 by Firestone Tire & Rubber Co. Commercial production is still some distance away—perhaps not until 1947 for appreciable volume.

The fabrics shown marked the first successful, small-scale production of this yarn, some of which is 100 denier with 24 filaments. Earlier it was expected that Velon hosiery yarn would be produced, but now it seems that weaving yarn will come first.

Hafner Associates developed the fabrics with Firestone; and, once the new yarn is available to the trade, Hafner will assist mills using the new material. Velon staple fiber may come later; none has been developed as of this date.

Velon multi-filament yarn, like the monofilament, is dyed before extrusion. Its resistance to dyes and soiling is primarily due to the fact that it will not absorb water. It is also resistant to many chemicals and will not support combustion.

Tunic and hat of multi-filament Velon have an unusual handle and possess great resistance to soiling.

Good BLOTCH PRINTING Of Spun Rayons Achieved With Vat Colors

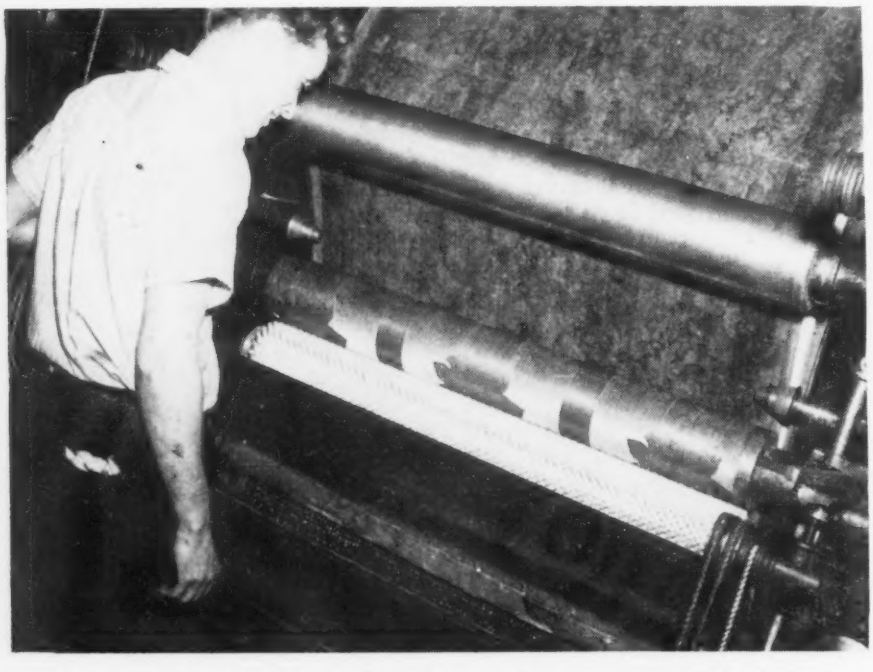
HIGHLIGHTS: *Size removal, roller etching, paste preparation, and after-treatments require special techniques—Over-drying or under-drying before ageing results in uneven colors—Peroxide and perborate preferred to bring out white grounds.*

By T. N. PATRICK

IN BLOTCH PRINTING of spun-rayon fabrics with vat colors, the aim is to achieve level, bloomy colors and a cloth with a soft, full handle.

The first task of the printer is the thorough preparation of the fabric for printing. While this aspect has often been stressed, it must be repeated that good preparation of the cloth is the foundation for the production of any first-class print on any cloth. For this reason, most printers take care that cloth preparation is under their supervision. In those cases where preparation is carried out elsewhere, every care should be taken to check it by the printer's own technicians.

Spun-rayon preparation involves the removal of spinning oils and all size. The oils do not usually present any difficulty, but the variation in sizing content and size make-up do. While sizing procedure in many mills has been improved and controls instituted, it is undeniable that rule-of-thumb methods still prevail in certain quarters. Such factors as faulty mixing and careless weighing of size ingredients, variation of temperature in the size-box, varying levels of size mix, worn and dirty blankets on the squeeze rolls, etc. all lead to uneven sizing on the slasher. Often the ingredients used will create difficulty in the removal of the size.



Weight of engraving of printing rolls should vary according to the weight of the spun-rayon fabric to be printed.

SIZE REMOVAL. Where starchy sizes are used, the only satisfactory method of removal is by the use of malt extract or similar products. The goods are saturated with a weak solution of Diastase on the lines suggested in a previous article [June issue, page 145] and allowed to lie for an hour or two on trucks prior to treatment in boiling water. All spun-rayons should be treated in slack washers to obtain maximum shrinkage; and if enzymes are used in starch removal, the hot-water treatment with subsequent scouring in soda-ash and soap solutions will give satisfactory results when carried out on this type of machine.

Bleaching is not usually necessary but can easily be carried out with hydrogen peroxide when extra whiteness is desired. Peroxide is preferred to hypochlorite, as there is less danger of harmful residues either when using calcium hypochlorite or through insufficient attention to the use of anti-chlors.

The cloth freed from size should be thoroughly absorbent. This is easily tested by the immediate sinking of small, round pieces cut out about the size of a half-dollar. These should, of course, be dry; use clear, still water for the test. Delay in sinking indicates the presence of size, probably starchy matter which can be confirmed by the iodine test.

As blotch printing is under consideration, the need for absorbency is paramount. The type of engraving on the copper rollers is also important. Heavy spun-rayon fabrics require heavy engraving, the lighter weights of fabric which require less printing color for their saturation need a correspondingly lighter engraving. Variation in the weight of engraving might be from 29 lines per inch to 35 lines per inch, the latter carrying less print paste. Another point about engraving is that the heavy masses of engraving should be broken up as much as possible by the

design so as to prevent "doctor-dipping".

Doctor-dipping is the result of the edge of the doctor blade dipping into the engraving instead of being carried over the tops of the engraving ridges by supporting parts of the design, which remain plain on the roller's surface. When this happens, some of the print paste is carried along with the doctor blade, and a bare impression is produced at the part affected. When a roller has been faultily engraved, some mitigation may be obtained by using a spring blade which tends to ride more lightly over the surface of the engraving.

The blotch part of the print is usually applied last, and a plain roller is sometimes used to obtain levelness and speed up drying by removing part of the surface print paste. This practice should be very carefully regulated, as it is possible to overdo it and produce a "thin" and ill-furnished appearance by too much crushing of the print color into the cloth.

THICKENINGS. Wheat starch and gum tragacanth comprise one type of thickener favored by vat-color printers. Converted starches are also used to a large extent. The higher the proportion of starch, the greater will be the tendency to unlevelness; and, as a rule, it will be found that the converted starches will give the most level results, although with a somewhat lower color yield. The latter quality may be improved by addition of extra amounts of glycerine, urea, vat dyestuff solvents, etc., according to the discretion of the colorist.

For blotch printing, only the finest dispersions of dyestuff pastes should be used. As blotches are usually produced in light to medium shades, an imperfectly dispersed dye paste will produce specky prints. The dyestuff paste should be let down with water, filtered very carefully, and only then be added to the required amount of thickening. The print paste thus produced should then, of course, be filtered again in the ordinary way prior to use.

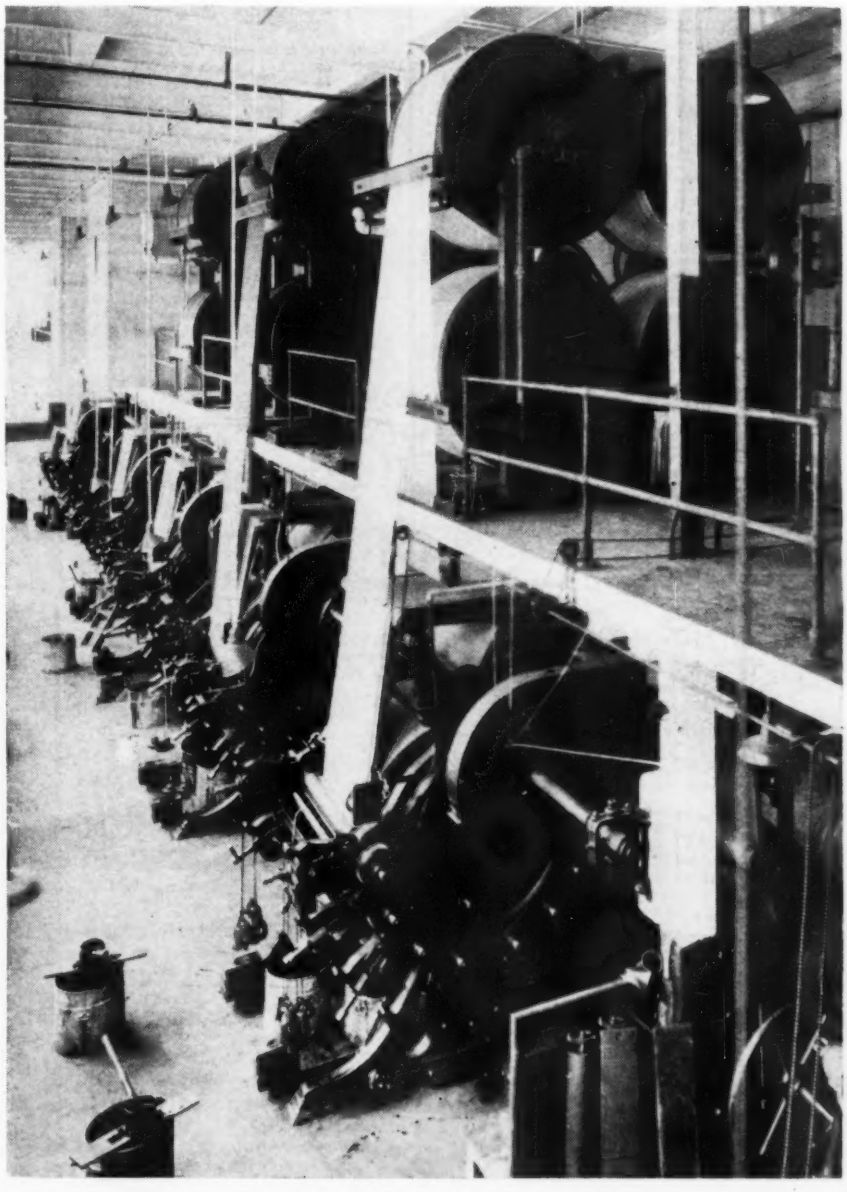
Drying blotch vat prints immediately after the printing process is important. Cylinder drying and hot-air drying are both used. In both cases, over-drying will lead to baking of the goods; on the other hand, too little drying may give rise to even more trouble. Over-drying may be remedied to some extent by subsequent cooling and conditioning prior to ageing or steaming. If the goods are under-dried, then over-heating in the piled-up batches may be looked for, with consequent trouble prior to and during ageing.

UNEVEN COLOR. Uneven color occurs because over-heating begins the chemical reactions which normally should only begin when the printed goods are brought under the influence of steam. This means that at the over-heated portions of the prints (usually on the inside and center of the batches), the vat dyestuff is brought into the reduced state before fixation has begun to take place. The reducing action is therefore premature; and the dyestuff affected remains on the surface of the fibers in the unfixed condition, even after ageing proper.

When goods of this type are developed and washed after ageing, they will be found to be uneven. When the fault is detected before ageing and the ultimate result is doubtful, suspected portions of the aged goods can be developed and examined for unevenness. If unevenness is detected, a remedy may be applied by padding the aged goods in a pad liquor consisting of a reduced vat thickening (containing all the ingredients for reduction and fixation of the vat dye), drying, and subsequently re-ageing. Pad through a two-bowl mangle, face down to a brass bowl with a rubber or wood bowl on top. The bottom bowl revolves in the vat thickening and carries it up to the cloth passing through the nip. Again, thorough drying is essential.

AGEING. Festoon and roller agers are both in constant use. In every case, the object is to carry the printed material through a chamber filled with steam at the optimum conditions of 212° F. and 100% r.h. The festoon

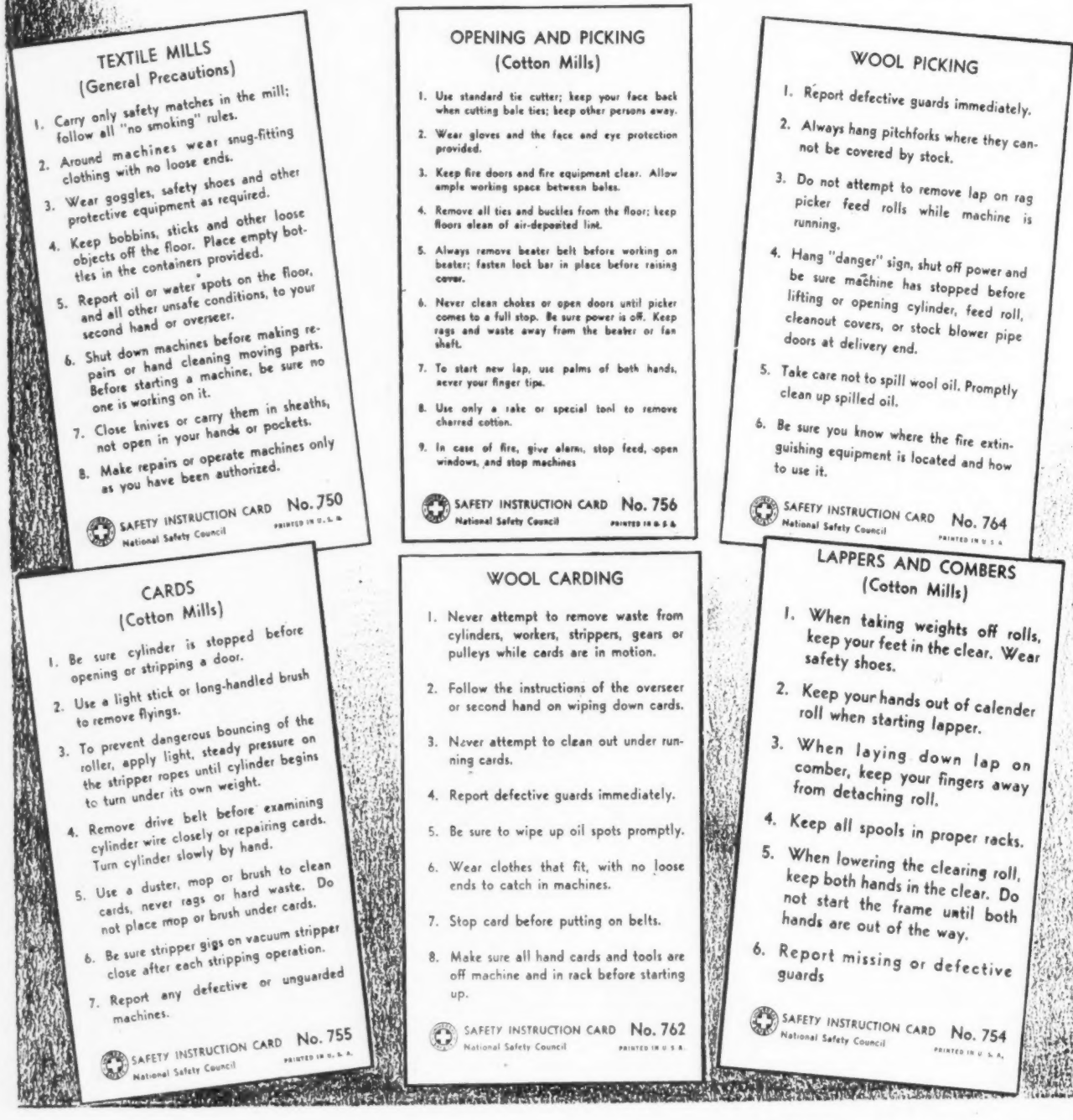
(*Continued on page 202*)



Blotch vat prints must be dried immediately after printing, but over- or or under-drying will cause uneven coloring.

There's SAFETY for Your Help In These Cards

VALUABLE SUGGESTIONS on safety practices in textile mills are given in the new series of Textile Worker Safety Cards, compiled and issued by the National Safety Council. The cards are in handy pocket size (3 x 5 in.) for distribution to operatives. The admonitions are briefly and understandably stated, are simple and practical. The series of 15 cards as reproduced herewith is slightly reduced in size. The cards comprise a workable code, department by department, for most mills. The cards themselves may be had from the National Safety Council, 20 North Wacker Drive, Chicago.



TEXTILE MILLS
(General Precautions)

1. Carry only safety matches in the mill; follow all "no smoking" rules.
2. Around machines wear snug-fitting clothing with no loose ends.
3. Wear goggles, safety shoes and other protective equipment as required.
4. Keep bobbins, sticks and other loose objects off the floor. Place empty bottles in the containers provided.
5. Report oil or water spots on the floor, and all other unsafe conditions, to your second hand or overseer.
6. Shut down machines before making repairs or hand cleaning moving parts. Before starting a machine, be sure no one is working on it.
7. Close knives or carry them in sheaths, not open in your hands or pockets.
8. Make repairs or operate machines only as you have been authorized.

SAFETY INSTRUCTION CARD No. 750
National Safety Council

OPENING AND PICKING
(Cotton Mills)

1. Use standard tie cutter; keep your face back when cutting bale ties; keep other persons away.
2. Wear gloves and the face and eye protection provided.
3. Keep fire doors and fire equipment clear. Allow ample working space between bales.
4. Remove all ties and buckles from the floor; keep floors clean of air-deposited lint.
5. Always remove beater belt before working on beater; fasten lock bar in place before raising cover.
6. Never clean chokes or open doors until picker comes to a full stop. Be sure power is off. Keep rags and waste away from the beater or fan shaft.
7. To start new lap, use palms of both hands, never your finger tips.
8. Use only a rake or special tool to remove charred cotton.
9. In case of fire, give alarm, stop feed, open windows, and stop machines

SAFETY INSTRUCTION CARD No. 756
National Safety Council

WOOL PICKING

1. Report defective guards immediately.
2. Always hang pitchforks where they cannot be covered by stock.
3. Do not attempt to remove lap on rag picker feed rolls while machine is running.
4. Hang "danger" sign, shut off power and be sure machine has stopped before lifting or opening cylinder, feed roll, cleanout covers, or stock blower pipe doors at delivery end.
5. Take care not to spill wool oil. Promptly clean up spilled oil.
6. Be sure you know where the fire extinguishing equipment is located and how to use it.

SAFETY INSTRUCTION CARD No. 764
National Safety Council

CARDS
(Cotton Mills)

1. Be sure cylinder is stopped before opening or stripping a door.
2. Use a light stick or long-handled brush to remove flyings.
3. To prevent dangerous bouncing of the roller, apply light, steady pressure on the stripper ropes until cylinder begins to turn under its own weight.
4. Remove drive belt before examining cylinder wire closely or repairing cards. Turn cylinder slowly by hand.
5. Use a duster, mop or brush to clean cards, never rags or hard waste. Do not place mop or brush under cards.
6. Be sure stripper gigs on vacuum stripper close after each stripping operation.
7. Report any defective or unguarded machines.

SAFETY INSTRUCTION CARD No. 755
National Safety Council

WOOL CARDING

1. Never attempt to remove waste from cylinders, workers, strippers, gears or pulleys while cards are in motion.
2. Follow the instructions of the overseer or second hand on wiping down cards.
3. Never attempt to clean out under running cards.
4. Report defective guards immediately.
5. Be sure to wipe up oil spots promptly.
6. Wear clothes that fit, with no loose ends to catch in machines.
7. Stop card before putting on belts.
8. Make sure all hand cards and tools are off machine and in rack before starting up.

SAFETY INSTRUCTION CARD No. 762
National Safety Council

LAPPERS AND COMBERS
(Cotton Mills)

1. When taking weights off rolls, keep your feet in the clear. Wear safety shoes.
2. Keep your hands out of calender roll when starting lapper.
3. When laying down lap on comber, keep your fingers away from detaching roll.
4. Keep all spools in proper racks.
5. When lowering the clearing roll, keep both hands in the clear. Do not start the frame until both hands are out of the way.
6. Report missing or defective guards

SAFETY INSTRUCTION CARD No. 754
National Safety Council

DRAWING AND FLY FRAMES
(Cotton Mills)

1. Use only brushes for cleaning around heads of frames or hangers.
2. Lock fly frame shutters before cleaning gears or box, and before making any repairs. Before starting frame, be sure no one is working on it.
3. Do not use a knife for cutting checks from rolls.
4. On drawing, be sure calender roll cover is entirely back before attempting to remove check.

SAFETY INSTRUCTION CARD No. 752
National Safety Council PRINTED IN U. S. A.

SPINNING
(Cotton Mills)

1. Keep gear cover down and guards on while machine is running.
2. Pull switch or lock belt on loose pulley before working on frame or changing gears.
3. When cleaning steel rollers, draw the hand toward you *away* from the roller.
4. When stopping bobbin or spindle, do not place your finger between lifting rod and bobbin.
5. *Walk* and watch for doff boxes in aisles; do not try to go between close set frames.
6. Always follow the spooler traveler; never lead or work in front of it.
7. Use the ladders; do not stand on boxes or roving cans.
8. Report boxes with splinters or sharp edges to second hand or overseer.

SAFETY INSTRUCTION CARD No. 751
National Safety Council PRINTED IN U. S. A.

WOOL SPINNING

1. Never climb in back of mule carriage unless belt is thrown off.
2. Be sure all bobbins are picked up after each doff.
3. Pick up bobbins *only* when mule has gone into forward motion.
4. Report defective guards immediately.
5. Avoid sudden changes of direction when operating mules. Walk carefully to prevent slips or falls.
6. Stop carriage before end of outward run.
7. Keep excess oil wiped up or use oil absorbent material.
8. Always approach steps on frames squarely. Avoid stepping up on steps diagonally.
9. Women should wear safety caps.

SAFETY INSTRUCTION CARD No. 763
National Safety Council PRINTED IN U. S. A.

SPOOLING AND WARPING
(Cotton Mills)

1. Keep your hands off tops and winders of spoolers.
2. Keep your hands out of bobbin pockets when traveler is approaching.
3. Wear snug-fitting clothing (no aprons or loose ends) around warpers.
4. Turn beam by hand when threading warpers.
5. Never clean warper drums with beam in place. Keep beam guards down.
6. Use a ladder; don't stand on bobbin boxes or roving cans.
7. Stop fans before removing waste from dust collector.
8. When handling beams, avoid jerking the load. Bend your legs, not your back, when lifting.

SAFETY INSTRUCTION CARD No. 753
National Safety Council PRINTED IN U. S. A.

SLASHERS
(Cotton Mills)

1. Push, do not pull, beam ceiling chains.
2. Wear snug-fitting clothing with long sleeves to prevent burns or scalds.
3. Check safety valve and steam control valve daily. Open steam valves slowly.
4. Keep floors free of water, size or starch.
5. Keep front delivery roll guard in place.
6. Be sure steam valve is shut before opening the size kettle lid; then open carefully.
7. Stack empty beams neatly and in the clear; block empty beams to prevent rolling.
8. See that everyone is in the clear before starting slashers.

SAFETY INSTRUCTION CARD No. 757
National Safety Council PRINTED IN U. S. A.

WEAVING
(Cotton, Woolen and Rayon Mills)

1. Wait until fixer's signal is removed before starting the loom. Looms should not be repaired while running; stop motor or lock shipper.
2. One person should not start the loom while another pushes back the shuttle.
3. Keep your hands on bottom sides of cloth roller when winding it up to starting position. (For cotton mills only.)
4. Fixer should place shuttle on cloth while working on the loom. Only safe tools should be used.
5. Use only round-pointed scissors.
6. Keep your hands away from moving parts of loom.
7. When lay ends are close together, stop adjoining loom before working on lay end.
8. Keep bobbins, oil and grease off the floor.
9. While cleaning, stay on the floor; don't climb on the loom.

SAFETY INSTRUCTION CARD No. 758
National Safety Council PRINTED IN U. S. A.

CLOTH ROOM
(Cotton, Woolen and Rayon Mills)

1. Never operate shear unless all guards are in place.
2. Stop folding blade as it travels away from you so it cannot catch you when it starts up. (For cotton mills only.)
3. Keep cloth rolls and tubes in the right place. Always stack cloth safely.
4. Never use your fingers to straighten the selvedge on cloth being sheared.
5. Stop shears and folders before cleaning.
6. Do not step on or jump over cloth trucks.
7. Lift with your legs and keep your back straight.

SAFETY INSTRUCTION CARD No. 759
National Safety Council PRINTED IN U. S. A.

DYE HOUSE
(Cotton, Woolen and Rayon Mills)

1. Wear splash-proof goggles or face shield, rubber gloves, apron and boots when handling acids and caustics.
2. Wear a respirator, goggles and rubber gloves when handling dyestuffs and powdered chemicals.
3. Remove nails from wooden barrels when opening them; keep covers on barrels.
4. Keep chemical solutions off the floor as much as possible.
5. Change clothing and wash thoroughly after working with acids, caustics and dyestuffs.
6. If chemicals get in your eyes or on your skin, flush with water and get first aid immediately.
7. Walk and lift carefully on wet floor.
8. Keep aisles clear of trucks and stock.
9. Shut off steam and motor when taking sample from dye kettles.

SAFETY INSTRUCTION CARD No. 760
National Safety Council PRINTED IN U. S. A.

WOOL FINISHING

Wet Finishing

1. Never attempt to feed washers or fulling mills by hand. Always use a stick.
2. Be careful never to spill soap on the floor. Wipe up immediately any that may be spilled.
3. Use mild soap for washing up; soft mill soap may harm your skin.
4. Wear splash-proof goggles, rubber gloves and apron when working with acids or other chemicals.
5. Never open extractor cover guard until basket has stopped.
6. Make certain your feet are clear from cloth before starting fulling mills.

Dry Finishing

1. Keep shear guards in place at all times.
2. Shut down shear before testing for proper setting of machine heads; use paper sheet.
3. Avoid injury; push trucks, do not pull them.

SAFETY INSTRUCTION CARD No. 761
National Safety Council PRINTED IN U. S. A.

FLUORESCENT LAMP LIFE

Calculated to Determine Replacements

HIGHLIGHTS: *Charts permit determination of number of replacement lamps required—Lamp life increases in textile mills because hours in burning cycle are relatively long.*

By ROBERT R. WYLIE
Commercial Engineer,
Sylvania Electric Products, Inc.

Table I—Rated Life of Various Fluorescent Lamps

Hours Burning per Cycle	Type T-8 15W, 30W		Type T-12 15W, 20W, 40W		Type T-17 100W	
	Life	70% Lumens*	Life	70% Lumens*	Life	70% Lumens*
3	2500	78	2500	84	3000	78
6	4000	72	4000	76	4500	72
12	6000	69	6000	70	6500	69

**Indicates percent initial (100 hour) lumens per watt at 70% life.*

RECENTLY the manufacturers of fluorescent lamps announced an extension of the rated life of various lamps based on the number of hours the lamps were operated continuously. Table I shows new average life ratings with the approximate percent lumen output at 70% average rated life.

The average rated life indicated is the life of large groups of lamps burned under laboratory conditions. Individual lamps in textile mills have been known to burn much longer than the rated life principally because the hours in the burning cycle are relatively long. In general use, however, the life of a large group of lamps burned under favorable conditions should approximate the figures shown in the table.

DATA REQUIRED. The announcement of these new life ratings led to the need for a simplified method for computing fluorescent lamp life expectancy. The series of charts presented in Figs. 1, 2, 3, 4, 5, and 6 enables one to determine the expected rate of monthly replacement of lamps when certain data relative to the installation are known. It should be kept in mind, however, that these tables are based on lamps burned at correct voltage and under optimum operating conditions.

The accompanying information outlined is that which is needed in order to use the charts:

1. Size of lamp
2. Number of lamps in installation
3. Number of hours lamps are operated continuously (hours burning per cycle)

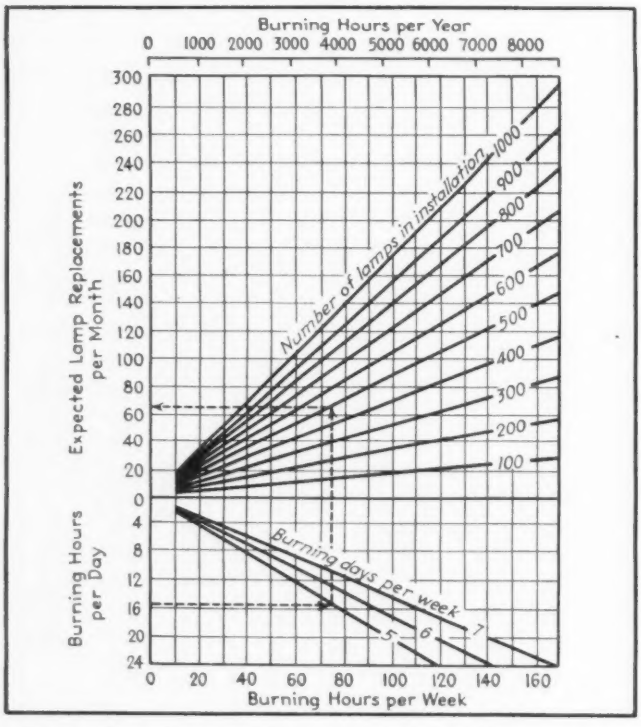


Fig. 1. Chart for computing expected lamp replacements per month based on a rated average lamp life of 2500 hours.

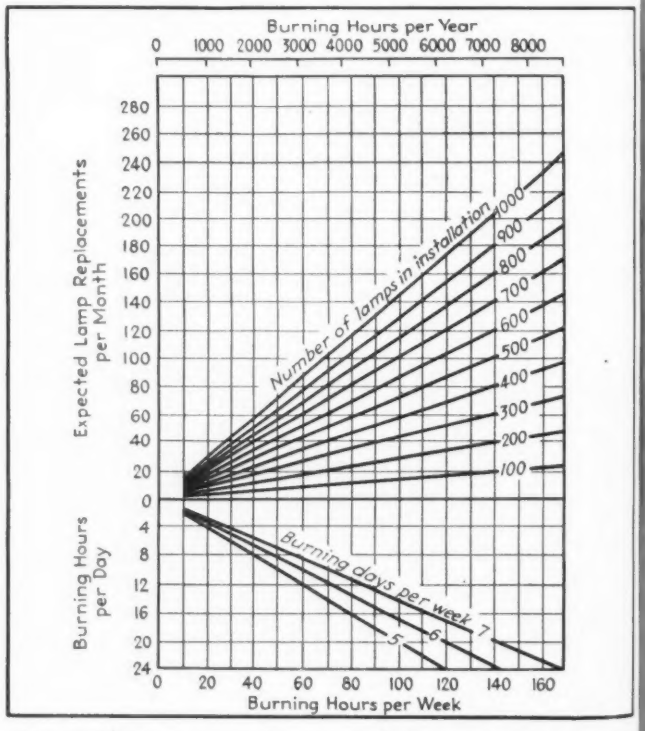


Fig. 2. Chart for computing expected lamp replacements per month based on a rated average lamp life of 3000 hours.

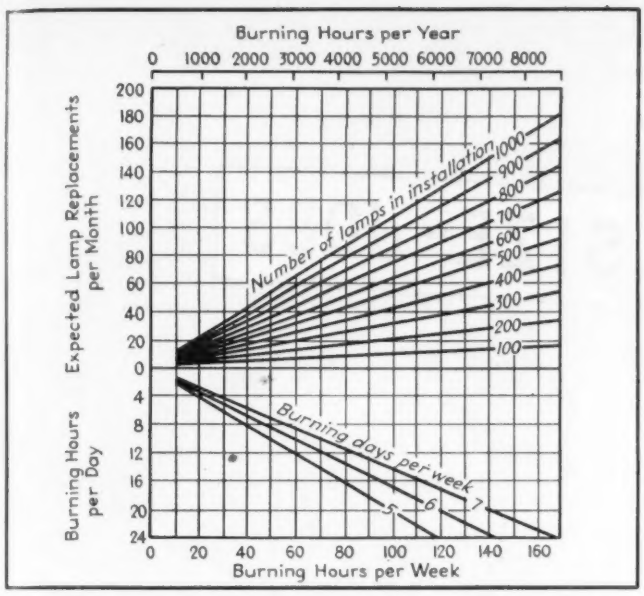


Fig. 3. Chart for computing expected lamp replacements per month based on a rated average lamp life of 4000 hours.

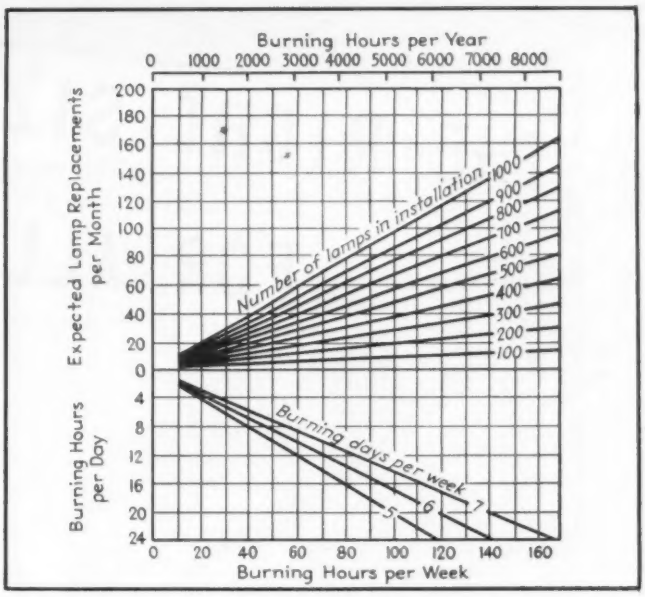


Fig. 4. Chart for computing expected lamp replacements per month based on a rated average lamp life of 4500 hours.

4. Number of hours burning per day, week, or year

APPLICATION OF CHARTS. As an example of the application of these charts, assume that a lighting installation consists of 500 40-watt lamps burning an average of five days per week for 15 hr. a day, turned off and on at approximately 3-hr. intervals (relatively frequent). Referring to Table I, under the 40-watt lamp column, lamps burned on a 3-hr. cycle have a rated average life of 2500-hr., therefore Fig. 1 should be used. Beginning with the scale marked "Burning Hours per Day," follow along the line representing 15 hr. per day until the diagonal line representing five days per week is reached, and then up the chart until the diagonal line which applies to an installation of 500 lamps is reached, continuing to the left across the chart a value of 65 is obtained from the scale marked "Expected Lamp Replacements per Month."

If an installation should consist of 5,000 lamps rather than 500, the answer would be 65 x 10, or 650 lamps per month. Similarly, for an installation of 50 lamps the result would be 65 divided by 10, or 6½ lamps per month.

In textile mills where the burning hours per day are not uniform, the total burning hours per week should be computed and then the chart may be used by beginning with the scale marked "Burning Hours per Week," following up the chart from this line to the diagonal line representing the total number of lamps in the installation, and across to the expected replacements per month scale as before. Sometimes it is convenient to express the total burning hours on a yearly basis for, perhaps, the lamps may not be operated 52 weeks of the year. If the total burning hours per year is known the scale at the top of the chart may be used, and by following down to the intersection of the appropriate diagonal line for the number of lamps in the installation, and proceeding as before, again the expected lamp replacements per month may be conveniently determined.

It will be found possible to apply these charts to a wide variety of conditions but care should be taken that the user always keeps before him the definition of rated average life. The total number of burnouts per month may vary considerably, and an average of the actual replacements over a period of several months should be obtained before reaching a decision regarding the performance of any lighting installation.

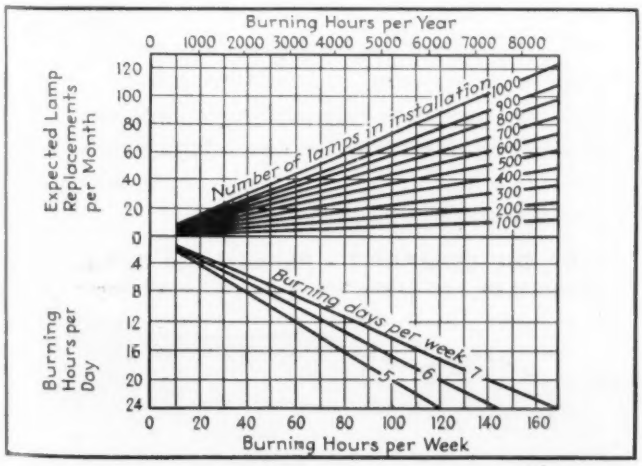


Fig. 5. Chart for computing expected lamp replacements per month based on a rated average lamp life of 6000 hours.

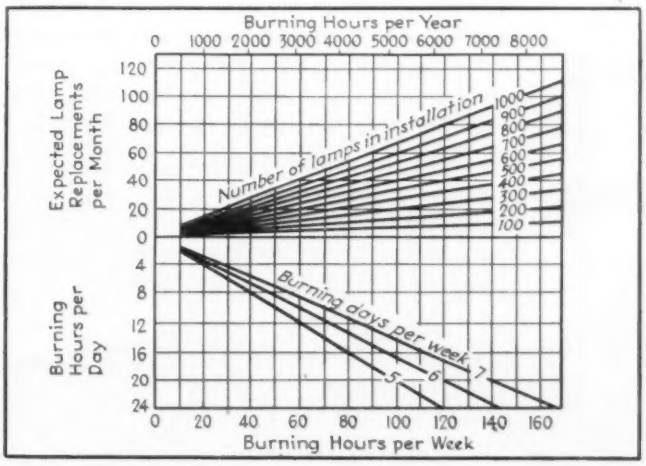


Fig. 6. Chart for computing expected lamp replacements per month based on a rated average lamp life of 6500 hours.

SUN TEXTILE PROCESSING OIL

Gives Uniform Results; Produces Smoother, Better Sizing For Rayon and Acetate Yarns

After five months of careful testing, a New England mill recently standardized on Sunotex processing-oil for rayon and acetate yarns.

The advantages of the Sun products, as determined in regular day-to-day use on slashers, are: Smoother, better-sized yarn; greater uniformity; more ease in handling. Also, with Sunotex oils, there is a saving of 25%.

On rayon and acetate yarns, this mill had used two formulas which included some of the outstanding processing-sizes on the market. Today, these have been replaced with Sunotex Oils and a gelatin base.

These findings of typical textile engineers, whose names we will be glad to give you, are being matched in scores of mills in many parts of the country. More and more textile men are coming to rely on Sun processing-oils for uniform penetration; for smooth, easy-working yarn; and uniform scouring-out. For complete information on Sunotex processing-oils, or on Sun special lubricants for textile machinery, call the Sun man near you. Or write . . .

SUN OIL COMPANY • *Philadelphia 3, Pa.*
Sponsors of the Sunoco News-Voice of the Air — Lowell Thomas

SUNOCO **SUN INDUSTRIAL PRODUCTS**

OILS FOR AMERICAN INDUSTRY

TRI RESEARCH FINDINGS
Add Data to Textile Theories

HIGHLIGHTS: *Molecular structure and fiber strength correlated by Prof. Eyring—Bleached fabric research suggests improved procedures—Starch divided into two elements—Progress reported on radiation drying.*

ANALYSIS of atomic energy was presented by Dr. H. D. Smyth, chairman of Princeton's department of physics, before the luncheon at the annual meeting of the Textile Research Institute at the Waldorf-Astoria Hotel, New York, on Nov. 9. The board of directors elected H. W. Rose, of American Viscose Corp., as chairman; Curt Forstmann and John Bassill as vice presidents; Robt. West, as treasurer; D. B. MacMaster as secretary. A paid president will be named later.

How molecular structure determines strength of textile fibers was the subject of the talk by Dr. Henry Eyring, of Princeton and TRI. He said:

"Quantitative representations of the mechanical behavior of various types of rayon, cotton, silk, and wool fibers have been found. The model used is a spring in parallel with a system consisting of a dashpot and spring in series. The dashpot of this model does not follow the ordinary law for a Newtonian viscous fluid postulated by Maxwell, but rather the non-Newtonian hyperbolic sine law of chemical reactions. The result of this is that a fiber tends to show creep only when considerable force has been applied and then returns only very slowly to its original length when the force ceases.

"The procedure of analysis briefly stated, consists in treating the stress on the fiber as the sum of a stress on the spring and on the spring-dashpot. The stress on the spring in many cases approximates Hookean behavior, i.e., the strain is proportional to the stress. The stress on the dashpot-spring unit first increases linearly with the strain. As the strain increases, the stress ceases to rise and approaches a limiting value when all further strain consists in slipping of the dashpot with no further lengthening of the spring. Addition of these two types of stress strain curves then suffices to quantitatively account for extremely complicated hysteresis loops of actual fibers.

"The critical process in the breaking of most fibers seems to occur before the final rupture of primary bonds. The critical process is the pulling out of the loops in long molecules which finally dimishes the cross-section of the fiber until the stress concentrates on individual molecules to the breaking point."

BLEACHING. In studying the behavior of bleached fabrics toward acid and alkali, Dr. Eugene Pacsu, of Princeton and TRI, investigated the behavior of the aldehyde type of oxycellulose prepared by the action of 1 mole of sodium metaperiodate on cotton. Treatment of the oxycellulose with 2N hydrochloric acid at room temperature caused no apparent changes in the properties of the material. The comparatively great resistance to acid of the C-O-C linkages in oxycellulose deserves special consideration, he said, in view of the widespread belief concerning the harmful effect of acids on oxidized cellulose.

The enhanced reactivity of the aldehyde type of oxycellulose in alkaline media presents difficult problems, according to Dr. Pacsu. Numerous reversible and irreversible changes may take place in the presence of hydroxyl ions. Because of these changes, an aqueous solution of periodate oxycellulose, although practically neutral to litmus, uses up a considerable quantity of standard alkali solution, without, however, having a sharp end-point in the presence of phenolphthalein. "Therefore, concluded Dr. Pacsu, methods of determination of the supposed carboxyl content of the aldehyde type of oxycellulose by direct or indirect use of alkali are fundamentally unsound.

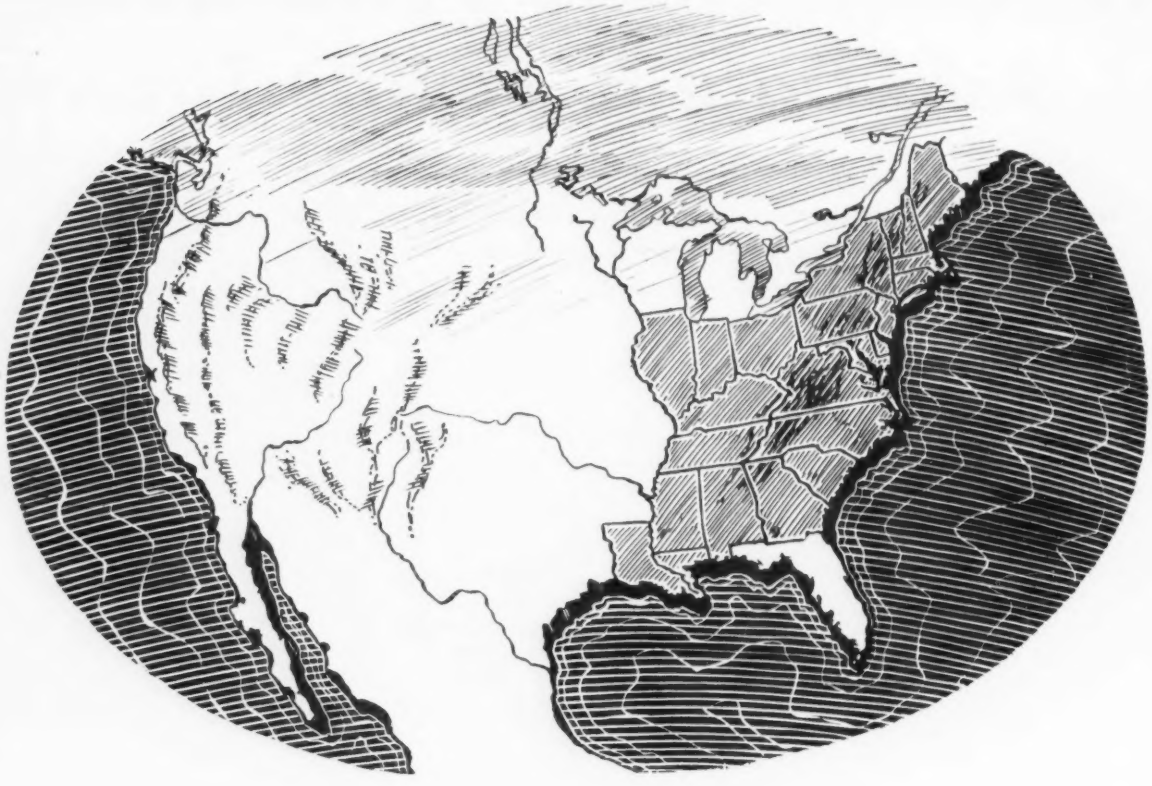
"Evidently," said Dr. Pacsu, "complete elimination of the aldehyde type of oxidation by the use of suitable bleaching or oxidizing agents should result in improved fibers which would not deteriorate rapidly in even a mildly alkaline medium, such as a soap solution. On the other hand, if employment of bleaching or oxidizing agents which produce the aldehyde type of oxycellulose is unavoidable, then the use of some neutral or slightly acidic detergent instead of soap would be most advantageous."

Dr. Robert E. Rundle reviewed some recently discovered points of starch structure. By X-ray analysis, starch has been shown to consist of two components, one highly branched and constituting a major portion of most starches, the other essentially unbranched and amounting to about 25% of the total of most whole starches. These two constituents are quite different in chemical, physical, and enzymatic properties.

"The unbranched component," said Dr. Rundle, "has yielded films and fibers, and the acetate of the unbranched component has likewise been shown to form both films and fibers. For the present, these do not seem to be important commercially, except

(*Continued on page 238*)

PROGRESS REPORT *on radiation drying of textiles was made by Richard H. Wilhelm, of Princeton and TRI. The study compares drying by radiant energy and hot-air drying. The observed proportionality between drying rate and energy input in radiation drying was commented upon and the effect of air velocity in both modes of drying was discussed. The similarity of moisture gradients in radiation and air drying, said Mr. Wilhelm, indicates similar internal moisture transfer mechanisms in the falling-rate periods. An experimental comparison between radiation and air drying in these periods and at the same net energy input was made. The study is also measuring the importance of surface reflectivity and of radiation absorptivity.*



—back in 1820: When there were only 23 states in the Union and Chicago was a settlement of 14 houses—five years before rollers were first engraved for cotton printing—John Butterworth established this business in Philadelphia to serve the Textile Industry.

And we have been at it ever since.

For 125 years we have been in daily contact with the Textile Industry—its problems and opportunities. We have seen it grow from a handful of family-sized plants to its present position as America's Second Industry—and we are proud of the part we have played in its development.

Butterworth Service includes a complete line of Machinery for bleaching, mercerizing, dyeing, drying, printing and finishing fabrics and warps; calenders for cotton and rayon fabrics; spinning machinery for rayon filament yarns.

Butterworth Research keeps informed on the new developments in Textiles and Textile-finishing. Butterworth Engineering strives to interpret each new development in terms of Machine Design and Plant Arrangement. Write us.

BUTTERWORTH

H. W. BUTTERWORTH & SONS COMPANY, Philadelphia 25, Pa.
TEXTILE FINISHING MACHINERY COMPANY DIVISION, Providence, R. I.
1211 Johnston Building, Charlotte, N. C. W. J. Westaway Co., Hamilton, Ont.

SHIRLEY ANALYZER Aids Card-Waste Studies

By GEORGE W. PFEIFFENBERGER

HIGHLIGHTS: *Shirley Institute machine removes almost 100% of foreign matter in cotton lint, but removes no short fiber—Cleaning and operating efficiency of cards and pickers can be checked—Tests show that picker leaves 70% of original trash in cotton stock.*

ONE OF THE MOST interesting subjects in the cotton-spinning industry is that of the revolving top-flat card. Although there is a diversity of opinion regarding the machine, the consensus is that its primary function is to open the cotton to a near single-fiber basis and that its cleaning function is secondary or incidental.

Probably one of the reasons why there is some doubt regarding the relative importance of these two functions is the fact that they are never separated. Until recently, no one could be sure just what a card would do or what the quality of its product would be if clean cotton were fed to it. Mills using high-grade cottons and cleaning them to the best of their ability do approach a clean lap, but they do not attain a lap entirely free of foreign mat-

The tests upon which this article is based were conducted in connection with the research and testing program of the U. S. Department of Agriculture while the author was Cotton Technologist, Cotton Branch, Office of Marketing Service.—EDITOR.

The Shirley Analyzer, a laboratory machine developed some years ago by the Shirley Institute of Manchester, England, consists of a feed table, feed roll, lickerin, streamer plate, exhaust fan, and condenser. The lickerin, similar to that used on cotton cards, slowly takes the stock from the feed roll, breaks it up, and places it under the blowing action of an air stream created by the fan. The lint is carried by the air stream around the bottom of the streamer plate and up to the condenser, while trash and heavy particles are dropped into the waste chamber. The stripper knife guides the lint onto the screen condenser, dust is blown from the lint into the cage within the condenser, and the lint is delivered into the box at the front of the machine.

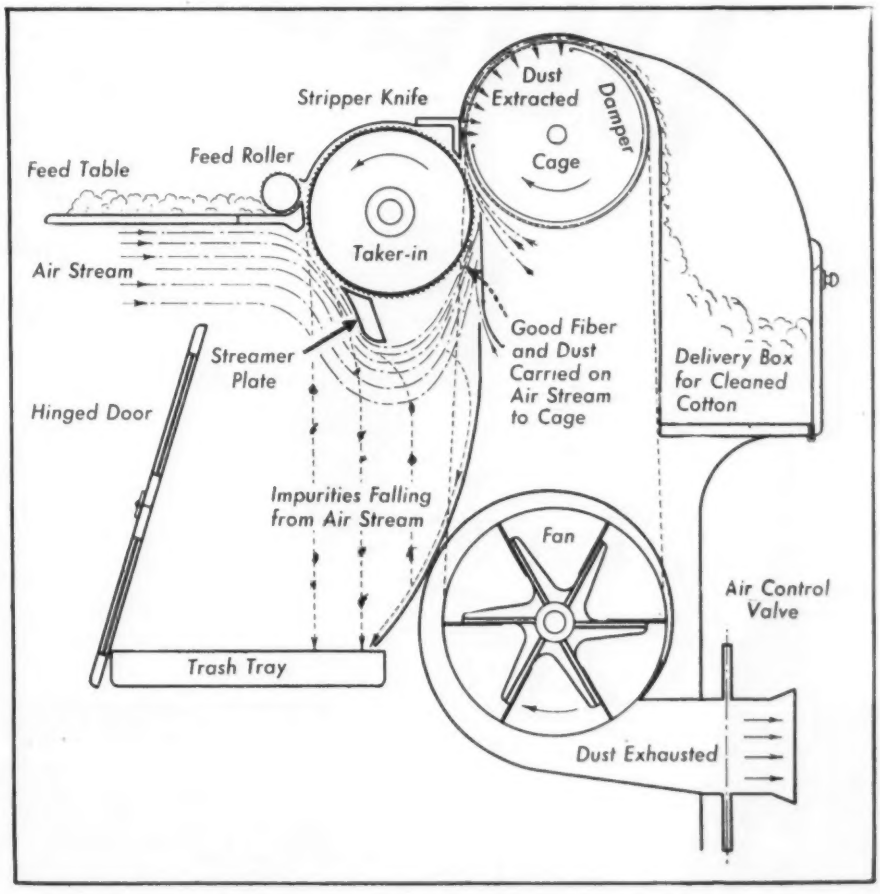


Fig. 1. A sectional diagram of the Shirley Analyzer, showing the flow of stock and the separation of lint and trash.

PENN SALT
Caustic Soda
Special tank cars for liquid (50% and 72-73% solution). Solid in 700 lb. drums . . . flake in 125 and 400 lb. drums.
TO THE TEXTILE INDUSTRY PENN SALT SUPPLIES
Caustic Soda
Sodium Hypochlorite
Sulphuric Acid
Carbon Bisulphide
Hydrogen Peroxide
Soda Ash
Hydrochloric Acid
Ammonium Persulphate
Anhydrous and Aqua Ammonia
PENNSYLVANIA SALT
MANUFACTURING COMPANY
Chemicals
1000 WIDENER BUILDING, PHILADELPHIA 7, PA.
NEW YORK • CHICAGO • ST. LOUIS • PITTSBURGH • CINCINNATI • MINNEAPOLIS • WYANDOTTE • TACOMA

ter. Card experimental work, therefore, has largely been confined to laps which contain varying degrees of trash. This trash has gone into the card and served to conceal the separate actions of fiber separation and cleaning.

In the tests here reported, three cottons, representing short, medium, and long staple, were employed. Each had been harvested from the same field, on the same day, by three different methods. This afforded material of a wide range of staple length and waste content, and kept under control the variety, character, and origin of growth. In the tables showing waste percentages, the test results for the three cottons have been averaged and comparisons given between harvesting methods.

METHOD OF TESTING. One half of each sample was put through the picker and card in the usual manner. The other half was first cleaned by the Shirley Analyzer and then processed through the picker and card. The purpose of using the picker in the second group was only to produce the lap. No cleaning was performed at this stage, since all the trash had been previously removed from the cotton by the Shirley Analyzer.

The total card waste from the regular-process sample increased as the harvesting methods became rougher, but there was no difference in total card waste between harvesting methods on the Shirley Analyzer samples. This, of course, is due to the fact that the cleaning done by the picker was generally in proportion to the original amount of trash in the raw cotton, while the Shirley Analyzer made a near-perfect job of cleaning, regardless of the original condition of the raw cotton.

TABLE I

Actual trash in raw stock and picker laps, as measured by Shirley Analyzer, given in percentages.

Harvesting Method	Raw stock (%)	Picker lap (%)
Hand picked	3.7	3.0
Hand snapped	5.7	4.1
Machine stripped	6.5	4.0
Average	5.3	3.7

In order to show how much trash was left in the regular lap as it was fed to the card, a preliminary Shirley analysis was made of the raw stock and of the lap. The raw stock contained 5.3% actual trash, and the picker lap retained 3.7% of it. Thus, the cotton fed to the card actually contained 70% of the original trash. The other lap, identified throughout the test as "Shirley Analyzer," had such minute particles of foreign matter as to be considered 100% clean cotton.

From the accompanying tests, it is evident that the Shirley Analyzer can be an important aid to the study of cotton carding, because it affords a method of separating the two chief functions of the card: (a) fiber separation, and (b) cleaning. Through its use, the effects of varying degrees of trash on the card action can be definitely established. It effects also accurate quantitative and qualitative analyses of the card sliver and the various types of waste.

It also suggests other uses, such as the comparative measurement of fiber wastiness, as distinguished from trashiness, of different cottons. Since there is no foreign matter fed to the card, the differences which occur between cottons are due to wastiness of fiber—a factor of cost which could be of extreme importance.

TABLE II

Total manufacturing waste of all processes through card.

Process	Harvesting Method					
	Hand picked		Hand snapped		Machine stripped	
	Regular process	Shirley Analyzer	Regular process	Shirley Analyzer	Regular process	Shirley Analyzer
Shirley Analyzer	....	3.7	....	5.7	....	6.5
Picker	3.6	....	4.8	....	5.4	....
Card	4.2	3.9	5.0	3.9	5.2	4.0
Total	7.8	7.6	9.8	9.6	10.6	10.5

It is interesting to note that the total waste removed (primarily the shorter fibers ordinarily removed in processing) from each sample was almost the same, which indicated equal sliver cleanliness. However, the distribution of the waste removal was not the same. In every case, the Shirley Analyzer removed more waste than the picker. The card wastes were, therefore, just the reverse. In other words, a much greater burden of cleaning was thrown on the card by the normal picker lap than by the sample cleaned by the Shirley Analyzer.

TABLE III. Analysis of card-waste percentages.

Harvesting Method	Regular process				Shirley Analyzer			
	Flat strips	Cyl. & doff. strips	Motes & fly	Total	Flat strips	Cyl. & doff. strips	Motes & fly	Total
Hand picked	1.8	.8	1.6	4.2	1.8	.9	1.2	3.9
Hand snapped	2.1	.9	2.0	5.0	1.8	.9	1.2	3.9
Machine stripped	2.3	1.0	1.9	5.2	1.9	.9	1.2	4.0
Average	2.1	.9	1.8	4.8	1.8	.9	1.2	3.9

An analysis of card waste revealed that the regular-process samples gave off more motes and fly than did the Shirley Analyzer samples, which indicates that the near-perfect pre-card cleaning gave the greatest benefit to the card in this type of waste. Flat strips were also noticeably less in the Shirley Analyzer cotton. The least difference was in cylinder and doffer strips; but this is to be expected, since these strips are always the smallest and cleanest portions of card waste.

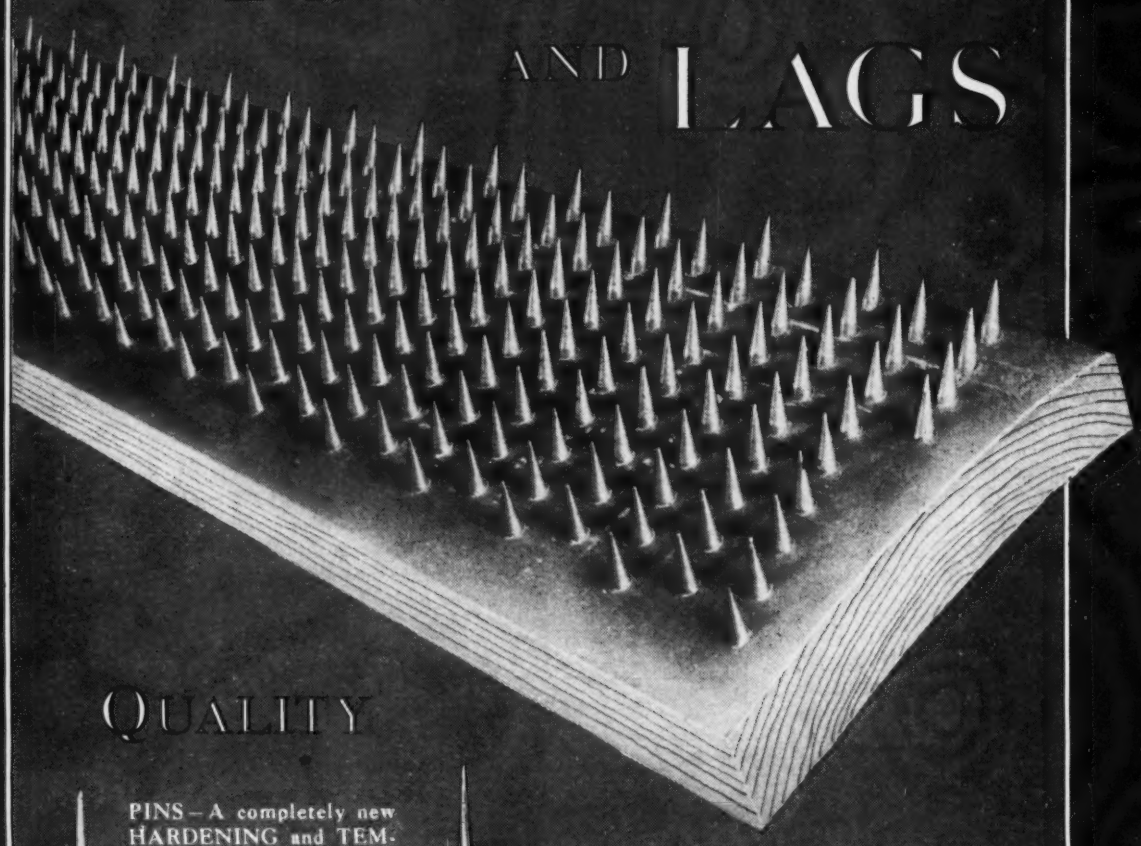
TABLE IV.

The percent of actual trash in card-flat, cylinder, and doffer strips.

Harvesting Method	Flat strips		Cylinder and doffer strips	
	Regular process (%)	Shirley Analyzer (%)	Regular process (%)	Shirley Analyzer (%)
Hand picked	11.5	4.7	3.2	1.3
Hand snapped	12.9	5.0	4.1	1.6
Machine stripped	12.6	5.8	3.8	1.8

These amounts of actual trash, as distinguished from fibrous material, were obtained by processing the strips themselves through the Shirley Analyzer. In the case of the flat strips, the regular-process samples averaged almost 2½ times as much trash as the Shirley Analyzer samples. About the same ratio occurred in the case of cylinder and doffer strips. Cleaning various waste products so that fiber tests can be made is a valuable application of the analyzer. On materials such as finisher or card motes, it would be difficult to make reliable fiber tests without some method of separating trash from fiber. If done by hand, it is a slow and tedious operation, and few short fibers are obtained.

PINS AND LAGS



QUALITY

PINS—A completely new HARDENING and TEMPERING Department insures lasting quality and uniformity in the pins. We manufacture in any type, size or quantity.

LAGS—Kiln dried Rock Maple with every shipment tested to insure long life and no splitting. Lags of every type for every purpose are available.

SERVICE—To make immediate shipments, we carry in stock many items. Write us for quotations.

OUR PRODUCTS ARE GUARANTEED

Needle Pointed Goods

Card Pins
Cordage Pins
Comb Pins
Faller Pins
Gill Pins
Hackel Pins
Picker Pins
Picker Teeth
Waste Machine Pins
Doffer Teeth
Shoddy Picker Teeth
Wood Pulp Teeth

Breaker Lag
Main Cylinder Lag
Carding Beater Lag
Cotton Picker Lag
Doffer Lag
Worker Lag
Steel-Faced Rag or Shoddy Picker Lag
Stripper Lag

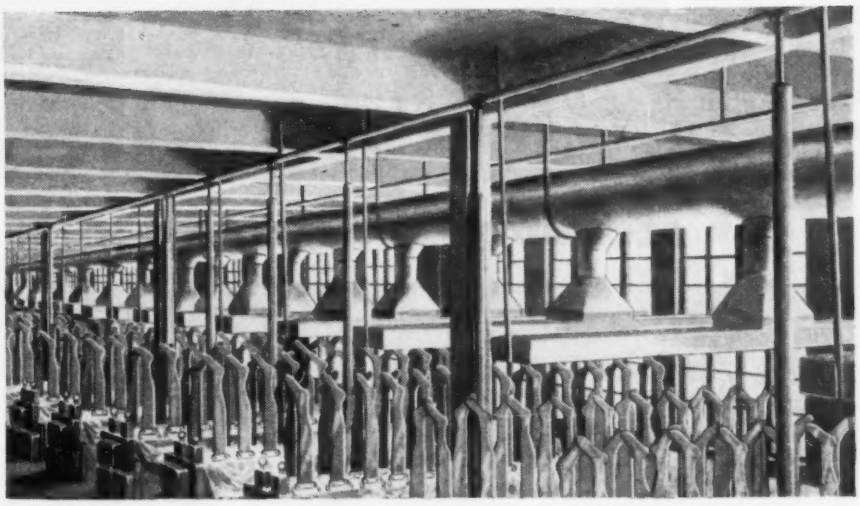
75TH ANNIVERSARY

WILLIAM CRABB & CO.

301 THIRD AVE., NEWARK 7, N. J.

HIGHLIGHTS: *Comfortable in winter but often intolerably hot in summer, the boarding room experiences seasonal migration of help—Air-cooling is key to solution of problem—Refrigeration better than evaporative cooling for this purpose.*

By JULIAN W. HUGHES



Try Air Conditioning in the BOARDING ROOM

AIR-CONDITIONING in the hosiery mill until the last few years has been confined mostly to the knitting department, principally full-fashioned knitting. With only few exceptions, air-conditioning has not been applied to the boarding room as extensively as might be expected. Since time immemorial, the boarding room has been considered a good place to work during the winter months, and a very hot and disagreeable place to work in summer. As only low steam pressure is required to generate enough heat in the drying apparatus to evaporate the moisture left in the hosiery, little attempt has been made to keep the temperature and relative humidity uniform in the boarding room. Both readings are often too high. Consequently at the present time when manpower is short, as well as in normal times, boarders have a tendency to migrate to outside jobs when spring is in the air, and back again when "Jack Frost" approaches.

Attempts have been made to render the boarding room a more pleasant place to work in summer; but, for the most part, this has been tried only by natural ventilation or by currents of air set up locally by electric fans. The object, of course, is to allow the hot air of the room to escape either through roof ventilators or exhaust fans, and induce fresh air from the outside. This causes a gentle breeze to sweep over the perspiring operatives, and the evaporative effect cools the body to some extent. This is better than nothing, but it is not entirely satisfactory. The low humidity so necessary for efficient drying of hosiery is still dependent on weather conditions when natural ventilation, or electric fans, are employed.

TYPES OF AIR CONDITIONING. Generally speaking, air conditioning to reduce temperature may be considered as of two types: (1) evaporation cooling and (2) refrigeration cooling. Each of these may be sub-divided into central-station and unit systems. Both the evaporation and refrigeration methods are used successfully for maintaining a workable temperature in the boarding room. The type of cooling best suited for this department depends on the method of drying the hosiery, whether on forms openly or confined in dry-boxes.

Hosiery dried in the open, where the evaporation takes place in the room atmosphere, is dried on internally heated forms. Steam at 20 to 25 lb. pressure is circulated through a set of stainless steel forms. The steam heats the metal surface which drives off the moisture left in the hosiery when it is placed on the forms. If, under these conditions, the temperature of the boarding room was lowered without correspondingly lowering the relative humidity the hosiery would not dry satisfactorily. As pointed out previously, a somewhat lower percentage of humidity is needed in the boarding room than in other departments of the mill due to the large amount of drying required. For cotton and viscose rayon constructions, a relative humidity of 40 to 45%, depending on the weight per dozen, is about right. For hosiery made of the less absorbent yarns, such as acetate and nylon, a humidity of 60 to 70% would be all right.

The relative humidity is the percentage of moisture in the atmosphere at a given temperature as related to the saturation point at that temperature, which is, of course, 100%. Naturally, then, the evaporative system of cooling, in which the atmospheric temperature is lowered by evaporation of finely divided drops of water sprayed into the current of air from the conditioning duct, will raise the relative humidity while lowering the room temperature. While the evaporative system of cooling is satisfactory for the knitting room and other departments where drying is not intended, it is not suited to a boarding room where heated forms dry hosiery in the open.

Generally the refrigeration method of cooling the boarding room is to be preferred. By this method it is possible to lower the room temperature to a comfortable degree, and at the same time keep the percentage of humidity low enough for rapid drying. The refrigeration method is more practical when part or all of the board-

(*Continued on page 204*)

SPECIFY "GENERAL CHEMICAL"

get economy, uniformity in textile chemicals

Versatility!

TSPP, For example— Dyes, Stabilizes, Scours

"Versatile" is the word for General Chemical TSPP (Tetrasodium Pyrophosphate) in the textile plant. The unique properties of this chemical make it an outstanding multi-purpose product for the textile industry:

In dyeing operations, it is an excellent dispersing agent, promoting deeper and more uniform penetration of the dye.

In bleaching, TSPP is effective as a stabilizer of peroxides.

In wool scouring, TSPP builds the detergent efficiency of soaps used to scour either shorn or pulled wool. Gives more "loft," and a softer, downier appearance.

Select Your Textile Chemicals From These General Chemical Products

Aqua Ammonia • Acetic Acid • Hydrofluoric Acid • Muriatic Acid • Sulfuric Acid • Epsom Salt • Glauber's Salt • Sodium Bifluoride • Sodium Bisulfite, anhydrous • Sodium Hyposulfite Sodium Metasilicate • Sodium Silicate • Disodium Phosphate Tetrasodium Pyrophosphate • Trisodium Phosphate • Sodium Sulfide • Oxalic Acid • Chrome Alum

BASIC CHEMICALS FOR AMERICAN INDUSTRY

GENERAL CHEMICAL COMPANY

GENERAL CHEMICAL COMPANY
40 Rector Street, New York 6, N. Y.

Sales and Technical Service Offices: Atlanta • Baltimore • Boston Bridgeport (Conn.) • Buffalo • Charlotte (N. C.) • Chicago Cleveland • Denver • Detroit • Houston • Kansas City • Los Angeles • Minneapolis • New York • Philadelphia • Pittsburgh Providence (R. I.) • San Francisco • Seattle • St. Louis Utica (N. Y.) • Wenatchee • Yakima (Wash.)

In Wisconsin: General Chemical Wisconsin Corp., Milwaukee, Wis.

In Canada: The Nichols Chemical Company, Limited Montreal • Toronto • Vancouver

TRASH IN COTTON
Affects Grade and Price

HIGHLIGHTS: *Increased value representing $24 per bale found in tests—Average of 60 cottons indicate 45 lb. waste per 500 lb. of ginned cotton—Changes in marketing needed—Excessive weight of trash penalizes buyer despite lower grade.*

By MARY ANNA GRIMES, *Textile & Clothing Specialist*
Texas Agricultural Experiment Station, College Station, Texas

Even hand-picked cotton contains much leaf and other trash.

As COTTON is customarily bought in the bale, not only cotton but also more or less trash is bought. What would the cotton grower and buyer gain if all trash were removed from cotton and only clean lint were sold?

The grower has long been urged to harvest his cotton with the least possible trash. It has also been suggested that equipment be developed which will remove the trash from ginned cotton at the gin, so that only clean lint is baled, sold, and shipped. It is argued that the higher grade and price would bring the farmer more money, the buyer would not pay for waste, transportation charges would not be paid on trash, and the mills would be spared some cleaning of the lint. The increase in the quantity of cotton now being mechanically harvested raises another question: Is a system of grading developed only for hand-picked cotton suitable for mechanically harvested cotton?

Sixty cottons varying in fiber properties, grown at two stations (College Station and Lubbock) during four seasons (1941 to 1944 inclusive), and harvested by three methods (hand picking, hand snapping, and machine stripping) were included in this study. However, since relatively few cottons were picked and snapped, the cottons are treated as one group.

ANALYZER USED. The machine-stripped cottons were run through an extractor (used in the field in connection with the harvester) and a special laboratory cleaner before ginning. All cottons were ginned on the same 10-saw laboratory gin. One hundred grams from each sample of the cotton were cleaned in a Shirley analyzer, small laboratory equipment in which apparently all of the waste is separated from the lint. The cleaned lint and the waste removed were each weighed. Their sum subtracted from 100 is called the invisible waste. The total waste was calculated as a percentage of the total weight. The cleaned and the uncleaned samples of each cotton were then classed by a board of cotton examiners.

The price of a 500-lb. bale of the uncleaned cotton and of the same cotton with the waste removed were each calculated using the Dallas market quotations for Mar. 29 based on May New York futures. The difference between the two prices is the gain or loss produced by cleaning. No account is taken of the probable cost of cleaning lint cotton at the gin, since equipment of commercial size is not now available and the cost of such equipment and cleaning is not known.

When the board of examiners gave two staple lengths for a cotton, indicating that two pulls did not give the same length, the average of the two staples was used (when such a figure fell on a common staple length); or where differences were too small for an average to give a usual staple length, the lower figure was used. The board stated that the cleaned samples resembled card strips, were whiter than the whitest sample in the Universal Standard box of that grade, and were quite different from the commercial samples which they were accustomed to classing, from which only a portion of the waste had been removed. They found 16 of the 120 samples too small for very accurate classing but comparison of these 16 with the other 104 indicates that the classing was equally accurate. The board stated that preparation for all cottons was considered normal and not considered in determining the grade. There remains therefore only leaf and color to include as the factors which determined the grade.

The data for each cotton are given in the accompanying table.

EFFECT ON GRADE. The grades are given their customary numerical desig-

ONE OF 15 DOW CHEMICALS USED BY THE TEXTILE INDUSTRY

for insulation board that won't feed "boarders"

HOW DOWICIDE STOPS TERMITES AND DECAY

Take a tip from the insulation board manufacturers. This industry's experience suggests a way to rid many products of bacteria, termites and mold—those "star boarders" with the all-devouring appetites.

These ravenous organisms thrive on nearly everything made of cellulose, which includes lumber and wood products as well as insulation board.

Most insulation board is made under moisture conditions that are an invitation to mold and bacteria. And even if it weren't, moisture absorbed by insulation board after it is installed makes it vulnerable to decay and termite attack. Temperature differentials in houses between plaster and outside wood sheathing result in condensation of moisture in the insulation board.

But this board can be—and is—made highly resistant to this destruction if Dowicide G is added during the manufacture of the insulation board. The Dowicide is retained by the finished board—giving it the protection needed to make it rot, mold and termite resistant.

Laboratory and field tests have shown that insulation board treated with Dowicide G stands up, even in wet soil, while untreated board soon disintegrates under attack of organisms. This successful use of Dowicide is a good tip to manufacturers confronted with problems of mold, bacteria and termite control. There's a Dowicide fitted to your needs if your problem stems from mold, rot, termites, fungi. Ask us how Dowicide can help you.

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit
Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle

Dowicide

Germicides and fungicides

DOW

CHEMICALS
INDISPENSABLE TO INDUSTRY

nations in the table: 2 for SGM, 5 for M, 9 for GO, etc.

The uncleaned cottons range from a grade of SM to SGO, a difference of 5 grades, and an average of approximately LM+. Of these 60 cottons, 28 were graded LM, 16 SLM, 6 M, 6 SGO, 3 SM, and 1 GO. After removal of the trash or waste, 40 cottons were SGM and 20 were GM. All but 8 were Extra White; and of these 8, 7 were SGM and 1 GM. The differences in grade due to cleaning, in individual cottons range from 2 to 6 grades, an average difference or improvement of 4.2 grades for the 60 cottons.

Grouping of the uncleaned cottons by grade gives average grades and wastes as follows: SM 4.6%, M 5.8%, SLM 6.1%, LM 12.3%, SGO 7.7%, and GO 7.0%. These averages indicate that an increase in waste is accompanied by a lowering of the grade, although not so much as the grade differences might suggest. Those graded SGO and GO must have been graded downward because of light, leafy trash, since there was a relatively low percentage of trash by weight in most cases.

The waste removed ranged from 3.7 to 32.8% by weight, with an average

(Continued on page 224)

The Grade, Staple, Waste, and Price of Uncleaned and Cleaned Cotton

Cotton		Uncleaned		Cleaned		Differences		Uncleaned Price		Waste	500 lbs. Minus Waste	Cleaned Price		Gained by Cleaning (—indicates loss)
No.	History	Grade	Staple 1/32 in.	Grade	Staple 1/32 in.	Grade	Staple 1/32 in.	Per lb. Cents	Per 500 lbs.	%		Per lb. Cents	500 lbs. Less Waste	
1	c y	*7	30	*3 EW	30	4	0	17.58	$87.90	29.0	355	21.98	$78.03	—$ 9.87
2	c x	7	30	2 EW	30	5	0	17.58	87.90	26.3	368	21.98	80.89	— 7.01
3	e z	7	30	2 EW	30	5	0	17.58	87.90	14.0	430	21.98	94.51	6.61
4	a z	7	30	2 EW	31	5	+ 1	17.58	87.90	9.4	453	22.18	100.48	12.58
5	e z	7	30	2 EW	30	5	0	17.58	87.90	9.4	453	21.98	99.57	11.67
6	c z	7	30	3 EW	30	4	0	17.58	87.90	7.5	462	21.98	101.55	13.65
7	e z	7	30	2 EW	29	5	— 1	17.58	87.90	6.0	470	21.13	99.31	11.41
8	e z	7	30	2 EW	31	5	+ 1	17.58	87.90	5.8	471	22.18	104.47	16.57
9	e z	7	30	2 EW	29	5	— 1	17.58	87.90	5.8	471	21.13	99.52	11.62
10	c z	7	28	3 EW	29	4	+ 1	16.43	82.15	23.7	382	21.13	80.72	— 1.43
11	c x	7	28	2 EW	29	5	1	16.43	82.15	19.4	403	21.13	85.15	3.00
12	c z	7	28	2 EW	28	5	0	16.43	82.15	13.8	431	20.48	88.27	6.12
13	c z	7	28	3 EW	28	4	0	16.43	82.15	10.4	448	20.48	91.75	9.60
14	f z	7	28	2 EW	28	5	0	16.43	82.15	8.9	456	20.48	93.39	11.24
15	g z	7	28	3 EW	29	4	+ 1	16.43	82.15	8.2	459	21.13	96.99	14.84
16	g z	7	28	3 EW	29	4	1	16.43	82.15	7.8	461	21.13	97.41	15.26
17	e z	7	28	2 EW	29	5	1	16.43	82.15	7.5	462	21.13	97.62	15.47
18	g z	7	28	3 EW	29	4	1	16.43	82.15	7.2	464	21.13	98.04	15.89
19	b z	7	28	2 EW	28	5	0	16.43	82.15	6.9	466	20.48	95.44	13.29
20	c y	7	29	3 EW	28	4	— 1	16.93	84.65	23.5	382	20.48	78.23	— 6.42
21	c x	7	29	2 EW	28	5	1	16.93	84.65	14.7	426	20.48	87.24	2.59
22	e z	7	29	2 EW	30	5	+ 1	16.93	84.65	10.3	448	21.98	98.47	13.82
23	c y	7	29	2 EW	30	5	1	16.93	84.65	8.5	458	21.98	100.67	16.02
24	b y	7	29	2 EW	30	5	1	16.93	84.65	7.0	465	21.98	102.21	17.56
25	c z	7	29	3 EW	29	4	0	16.93	84.65	5.8	471	21.13	99.52	14.87
26	g z	6	30	3 EW	29	3	— 1	20.18	100.90	5.3	474	21.13	100.16	— 0.74
27	g z	6	30	3 EW	29	3	1	20.18	100.90	5.3	474	21.13	100.16	0.74
28	d z	6	30	2 EW	30	4	0	20.18	100.90	5.2	474	21.98	104.18	3.28
29	c z	6	30	2	30	4	0	20.18	100.90	5.1	474	21.98	104.18	3.28
30	g z	6	30	2 EW	30	4	0	20.18	100.90	4.4	478	21.98	105.06	4.16
31	c z	6	29	2 EW	28	4	— 1	19.48	97.40	6.8	466	20.48	95.44	— 1.96
32	d z	6	29	2 EW	30	4	+ 1	19.48	97.40	6.1	470	21.98	103.31	5.91
33	d z	6	29	2	29	4	0	19.48	97.40	5.4	473	21.13	99.94	2.54
34	c z	6	29	2 EW	28	4	— 1	19.48	97.40	5.2	474	20.48	97.08	— 0.32
35	c z	8	29	3 EW	28	5	1	15.55	77.75	11.8	441	20.48	90.32	12.57
36	e z	8	29	3 EW	29	5	0	15.55	77.75	8.1	460	21.13	97.20	19.45
37	e z	8	29	3 EW	30	5	+ 1	15.55	77.75	7.4	463	21.98	101.77	24.02
38	a z	8	29	3 EW	29	5	0	15.55	77.75	4.9	476	21.13	100.58	22.83
39	b x	6	24	3 EW	28	3	+ 4	16.33	81.65	4.7	476	20.48	97.48	15.83
40	g z	6	28	2 EW	29	4	+ 1	19.08	95.40	8.6	457	21.13	96.56	1.16
41	c z	6	28	2 EW	28	4	0	19.08	95.40	7.4	463	20.48	94.82	— 0.58
42	b z	6	28	2 EW	29	4	+ 1	19.08	95.40	6.0	470	21.13	99.31	3.91
43	c z	6	28	2 EW	30	4	+ 2	19.08	95.40	3.9	480	21.98	105.50	10.10
44	f z	5	29	2 EW	28	3	— 1	20.73	103.65	6.5	468	20.48	95.85	— 7.80
45	f z	5	29	2 EW	29	3	0	20.73	103.65	4.4	478	21.13	101.00	— 2.65
46	f z	5	29	2 EW	30	3	+ 1	20.73	103.65	4.4	478	21.98	105.06	1.41
47	d z	5	29	2	29	3	0	20.73	103.65	3.7	482	21.13	101.85	— 1.80
48	c z	7	32	2 EW	31	5	— 1	17.68	88.40	32.8	336	22.18	74.52	— 13.88
49	e z	7	32	2 EW	30	5	+ 2	17.68	88.40	7.1	464	21.98	101.99	13.59
50	a z	8	30	3 EW	29	5	— 1	16.22	81.10	8.2	459	21.13	96.99	15.89
51	d z	8	30	2	31	6	+ 1	16.22	81.10	5.7	472	22.18	104.69	23.59
52	c z	6	24	3 EW	28	3	+ 4	16.33	81.65	4.9	476	20.48	97.48	15.83
53	b x	6	24	3 EW	28	3	4	16.33	81.65	4.7	476	20.48	97.48	15.83
54	c x	5	24	2 EW	26	3	+ 2	16.98	84.90	9.8	451	19.13	86.28	1.38
55	c y	6	16	2	26	4	+10	16.33	81.65	13.7	432	19.13	82.64	0.99
56	f z	5	26	2	28	3	+ 2	18.73	93.65	6.8	466	20.48	95.44	1.79
57	f z	4	30	2 EW	31	2	+ 1	21.68	108.40	4.9	476	22.18	105.58	— 2.82
58	f z	4	30	2 EW	30	2	0	21.68	108.40	4.0	480	21.98	105.50	— 2.90
59	e z	9	30	3 EW	29	6	— 1	15.15	75.75	7.0	465	21.13	98.25	22.50
60	f z	4	29	2	29	2	0	20.93	104.65	4.8	476	21.13	100.58	— 4.07
Mean		6.5	28.7	2.3	29.1	4.2	0.4	17.90	$89.49	9.1	455	21.25	$98.60	$7.11

a. College Station, Texas, 1941
b. College Station, Texas, 1942
c. College Station, Texas, 1943
d. Lubbock, Texas, 1941
e. Lubbock, Texas, 1942
f. Lubbock, Texas, 1943
g. Lubbock, Texas, 1944
x Picked
y. Snapped
z Stripped

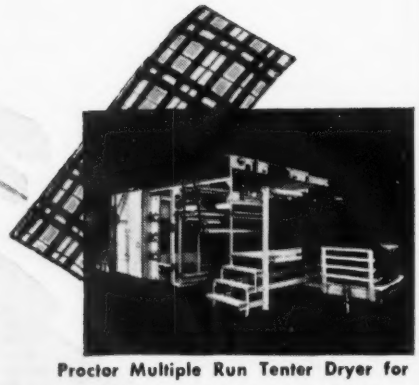
*The cotton grades are designated as follows:
2. Strict Good Middling (SGM)
3. Good Middling (GM)
4. Strict Middling (SM)
5. Middling (M)
6. Strict Low Middling (SLM)
7. Low Middling (LM)
8. Strict Good Ordinary (SGO)
9. Good Ordinary (GO)
EW, Extra White

PROCTOR DRYERS *for the* TEXTILE INDUSTRY

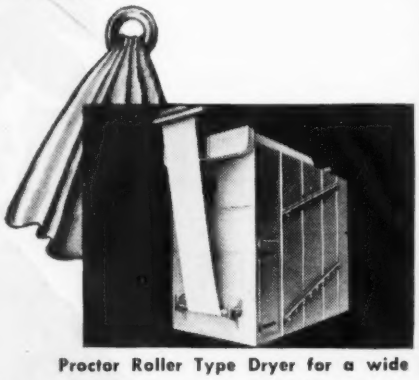
Through the years Proctor engineers have developed efficient dryers for every phase of the ever growing textile industry. Proctor Dryer designs have not only kept pace with the industry . . . but in many cases, have set the pace. Regardless of your textile drying problem, Proctor engineers are equipped to recommend a dryer designed to meet your needs. Whether it be drying raw stock, yarn, rayon in cakes, rayon staple, piece goods or goods that must be held to width—there is a Proctor machine designed to meet your specific requirements.

Recently Proctor engineers have made great strides in developing equipment for use in curing resin treated fabrics. Proctor's position in the textile drying industry is best attested by the number of variety of machines in use in leading textile mills throughout the country.

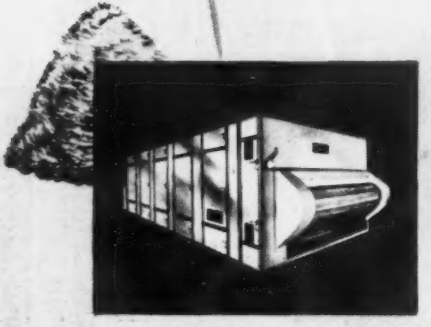
Specific recommendations covering the type and size of equipment you need can be intelligently made when both you and we have all the facts about your particular problem. If you are engaged in drying textiles—in any stage of development, write today. We'll begin working together to supply you the most efficient drying equipment available.



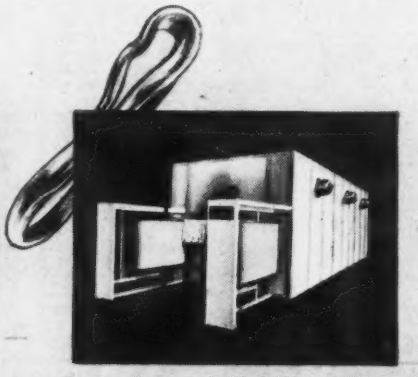
Proctor Multiple Run Tenter Dryer for woolen and worsted cloth, pile fabrics, blanket cloth and all other classes of heavy goods which must be held to width.



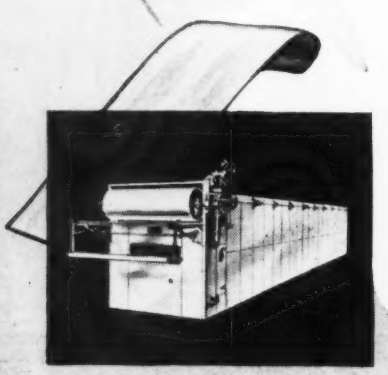
Proctor Roller Type Dryer for a wide variety of piece goods. Particularly adaptable for drying dyed fabrics before developing or curing in modern capacities.



Proctor Impact Type Dryer for cotton and wool raw stock, rayon staple and similar fibrous materials.



Proctor Automatic Skein Yarn Dryer for rapid, uniform drying of cotton, wool, silk or rayon yarn.



Proctor Loop Dryer for silk piece goods, spun rayons, toweling and similar goods. Also adaptable for curing.

PROCTOR & SCHWARTZ · INC · PHILADELPHIA 20 · PA.

Opposes Congressional Action on TEXTILE WAGE ADVANCE

HIGHLIGHTS: *President Jacobs of ACMA urges Congress to shun wage fixing—Figures show no further advance reasonable at present time as wages have already outrun living costs and other related yard-sticks.*

DETERMINATION OF WAGES, wage standards, or wage classifications by Congress can easily do more harm than good, according to Wm. P. Jacobs, president of American Cotton Manufacturers Association, in a statement presented Oct. 15 before the Senate Committee on Education & Labor relative to Bill S1349.

"The need of wage increases or decreases," stated Mr. Jacobs, "depends upon a wide variety of factors existing in the area, such as the cost of living; standards of living; living conditions; working conditions; available markets for the manufacturers' products; the price which the market offers; length of apprenticeship; experience, education, and skill required; job content; the nature of the work; the general economy of the region; wage schedules of the region and of competitive industries in the region and in the world. Rarely ever are law makers equipped with adequate experience in a specific industry to guide them safely to such important conclusions as influence the incomes of so many men and women or the permanence of the industries which offer such men and women employment."

The ACMA statement continued in part as follows:

During the war period the average hourly earnings of the Southern textile mill workers have increased from 45.8¢ in December, 1941, to 68.6¢ in July, 1945, an increase of 49.7%. If the comparison is extended back to the time when Great Britain entered the war, to cover the U. S. war preparatory period, the figures would show an increase from 36.3¢ in September, 1939, to 68.6¢ in July, 1945, or an increase of 88.9%. This comparison would appear to reflect more fully the abnormal increases which resulted from the war.

The cost of living of wage earners as compiled by the National Industrial Conference Board at the time Great Britain declared war in September, 1939, shows an index figure of 85.4 based on 1923 as 100. This figure compares with 106.9 in July, 1945, an increase of 21.5 index points or 25.2%, against the wage increase figure of 88.9%.

There are those who will say that the wage expressed in dollars and cents is misleading because the dollar meanwhile has decreased in value by virtue of the increase in the cost of living.

In the Economic Almanac of 1945-46, the National Industrial Conference Board shows the purchasing value of a dollar, based on changes in the cost of living, to be 117.1 index points in September, 1939, as compared with 93.5 in July, 1945, a decrease of 23.6 index points or 20.1%. This decrease compares with the wage increase in the same period of 88.9%. Thus the worker's dollar is now worth about 20¢ less than when Britain went to war but he has just 12¢ less than twice as many of them. These figures in the main are substantiated by the wage report of the National War Labor Board to the President on the wartime relationship of wages to the cost of living, dated Feb. 22, 1945.

The figures available do not fully reflect the most recent increases in wages ordered by the NWLB in cases of cited mills and authorized by the board in response to the voluntary applications of non-cited mills. These increases, involving a minimum of 55¢ per hr., an increase of 5¢ to workers of all classifications, a third shift differential, and a weeks' vacation with pay, have found general adoption throughout the Southern textile industry. The net result has been an increase of from 8% to more than 17% depending upon the number of these four provisions adopted by the individual mill.

Even now Southern textile wages continue to increase. On the other hand, there are indications that within recent weeks the trend of the cost of living has been slightly downward. The contemplated legislation on the worker's wage anticipates a future need. . . . There seems to be no factors on the horizon which would indicate a greater need to increase earnings than those which prevail today.

STANDARDS OF LIVING. The relative increase of the wage over the cost of living, while not entirely trustworthy for comparison, at least indicates strongly that the Southern textile worker is better able to afford a higher standard of living today than he was before the war. Surveys made of the homes in textile mill communities before the war showed that some have electric refrigerators, many have automobiles and practically all have radios. The nature and grade of furniture and other equipment in the Southern mill home compares favorably with that

(*Continued on page 232*)

LIQUIDATION OF THE TEXTILE INDUSTRY

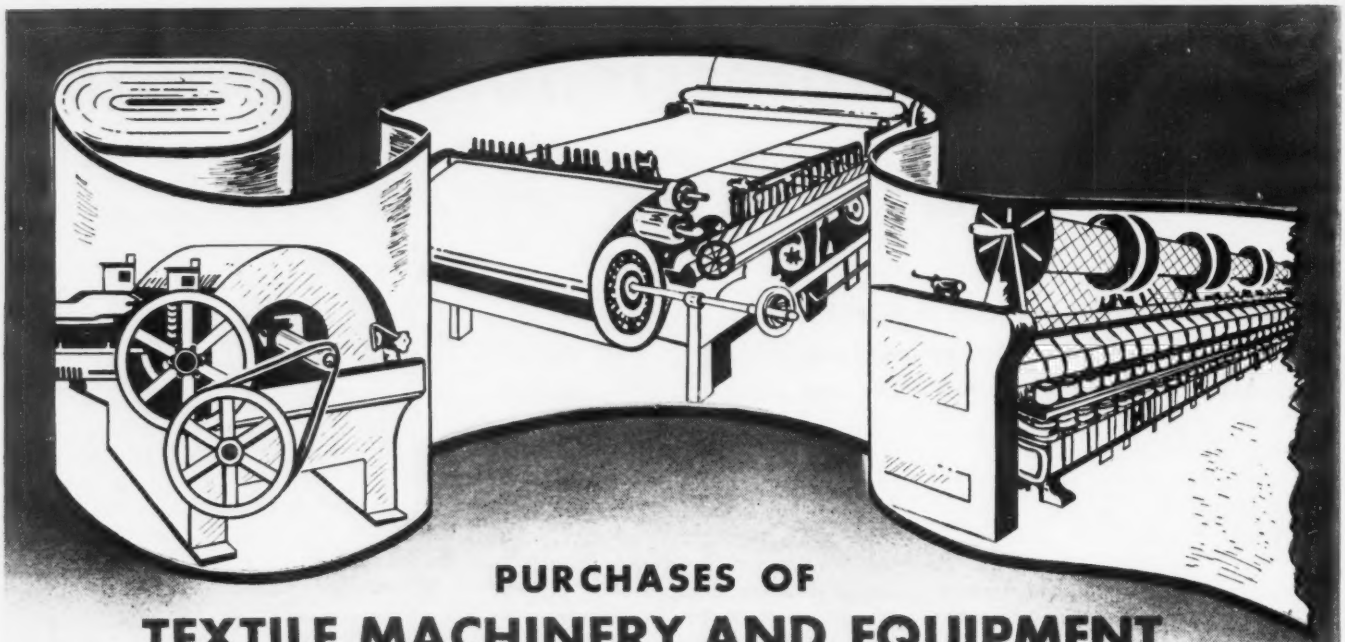
The record of spindles active (4-year averages, 1925 omitted) is as follows:

1918–1921	33,600,000
1919–1922	33,500,000
1920–1923	33,700,000
1921–1924	33,000,000
1922–1926	32,800,000
1923–1927	32,700,000
1924–1928	31,500,000
1926–1929	31,300,000
1927–1930	30,100,000
1928–1931	28,400,000
1929–1932	26,700,000
1930–1933	25,300,000
1931–1934	24,800,000
1932–1935	24,200,000
1933–1936	24,200,000
1934–1937	24,000,000
1935–1938	23,200,000
1936–1939	23,000,000
1937–1940	22,700,000
1938–1941	22,400,000

THE WAGE TREND IN SOUTHERN TEXTILE INDUSTRY

Average hourly earnings of Southern textile workers according to Bureau of Labor Statistics

	Cents an hour
September, 1939	36.3
December, 1941	45.8
March, 1942	48.9
April, 1942	49.3
May, 1942	50.9
September, 1942	54.9
October, 1942	55.1
December, 1942	55.5
January, 1943	55.9
March, 1942	56.3
September, 1943	57.3
March, 1944	57.8
May, 1944	61.4
June, 1944	61.6
July, 1944	62.0
September, 1944	62.8
December, 1944	62.9
January, 1945	63.3
March, 1945	63.4
July, 1945	68.6



PURCHASES OF
TEXTILE MACHINERY AND EQUIPMENT

FINANCED AT LOW COST, OVER EXTENDED PERIODS

Machinery—equipment—motors—electrical controls—lighting systems—air conditioning . . . ALL of the improvements needed to modernize mills and plants can be readily financed through the C. I. T. Textile Equipment Funding Plan.

Specially designed to finance capital investments . . . conserves your working funds . . . provides for LONG TERM amortization . . . permits equipment to help pay for itself out of earning capacity. Before you buy, get the details of how this plan functions.

HERE ARE THE HIGHLIGHTS OF THE PLAN

CASH: with which to purchase all types of equipment and machinery

•

LOW COST: comparable with the lowest rates available

•

TERMS: Months or years; to suit the exact needs of your business

ANY AMOUNT: no maximum or minimum; prompt action; no red tape

•

COMBINE: several purchases, if desired, in one obligation

•

FUNDS AVAILABLE: for immediate or future deliveries of equipment

Any of our offices **will handle all financing details for you. Write or call for full information.**

CIT

The Mark of LEADERSHIP

C.I.T. CORPORATION

INDUSTRIAL FINANCING

OFFICES:

ONE PARK AVENUE,
NEW YORK 16, N. Y.

•

333 N. Michigan Avenue
CHICAGO 1, ILL.

•

660 Market Street
SAN FRANCISCO 4, CALIF.

•

In Canada:
CANADIAN ACCEPTANCE CORPORATION *Limited*
Metropolitan Building, Toronto

AFFILIATED WITH COMMERCIAL INVESTMENT TRUST INCORPORATED

MODERN FLAME SINGERS
Are More Economical

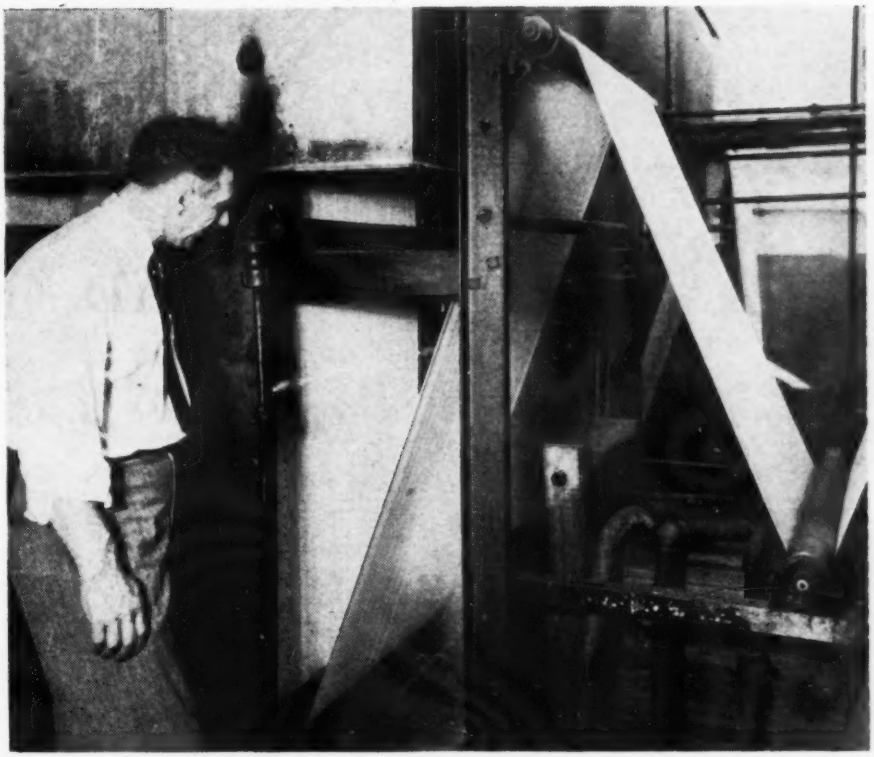
HIGHLIGHTS: *Early models of flame singers inefficient in fuel consumption—Use of otherwise waste heat to raise cloth-temperature just before singeing effects fuel-saving—Automatic controls available if used in range.*

By C. W. FRENCH
Industrial Heat Engineering Co.
Greenville, S. C.

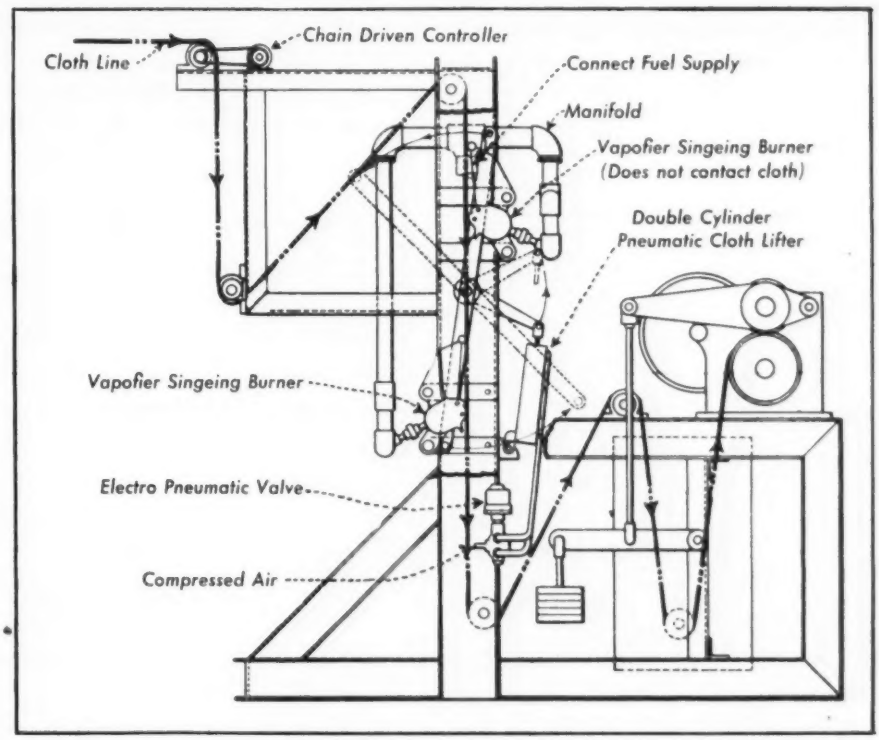
FLAME SINGEING of the lint on cotton cloth is much like carrying coal to New Castle. If the lint particles were close enough together to ignite from one another and they were dry, they would burn off without assistance and 1,000,000 to 3,000,000 B.t.u. per hr. would not be required to burn at most 1 or 2 lb. of lint which is already completely combustible. However, the lint particles which it is desired to remove are nearly always too far apart to ignite uniformly from each other and they draw the 5 to 7% residual water from the cloth with such extraordinary facility that, as long as they can get it, the evaporation of the water keeps them from being heated to the ignition point.

Removal of this water from the cloth is the reason why such an inordinate amount of fuel is required to singe off an infinitesimal amount of lint. At 200 yd. per min., or 10 ft. per sec., the treated area of the cloth is over the flame about 1/500th of 1 sec. With many types of burners, in that brief instant the moisture must be removed to the point where the lint particle can no longer cool itself by evaporation but can be heated up to its ignition point. After the ignition temperature is reached, it makes little or no difference whether the lint particle burns if oxygen is present, or destructively distills in the absence of oxygen. In either case it is removed from the surface of the cloth.

If the drying and singeing were not done in the same instant, less fuel might be required, as the waste heat, properly utilized, could do the necessary drying if given a little more time. Then the flame would have only the singeing to do, its waste gases having



Installation of automatic flame singer at Renfrew Blachery, Travelers Rest, S. C. Burner for other side of cloth is under hood above. The Navy twill being treated is running at 250 yd. per min.



Diagrammatic sketch of the operating elements of the automatic flame singer described.

TRADE MARK

The

AMERICAN THREAD COMPANY

announces

THE ADDITION OF THE

HAMPTON YARN DIVISION

member of the Durene association

As of November 5, 1945 the cotton yarn, rayon yarn, and processing business of the Hampton Company, becomes the *Hampton Yarn Division* of the American Thread Company.

The quality and uniformity of Hampton products will be zealously maintained and sales policies will remain essentially unchanged.

The merging of Hampton's fine name and traditions with the prestige and resources of the American Thread Company will inevitably result in more comprehensive service to the valued customers of BOTH.

THE AMERICAN THREAD COMPANY, INC., NEW YORK CITY

•

Industrial Thread Division • Sales Yarn Division • Domestic Thread Division
Hampton Yarn Division

Knitting Mill Develops APPRENTICE TRAINING Program

HIGHLIGHTS: *Holeproof Hosiery Co., Marietta, Ga., institutes training for seamless machine fixers in collaboration with Apprentice Training Service and Georgia State Department of Vocational Training—Necessary steps outlined—Supply of well-prepared craftsmen will result.*

By RAY TORGERSEN
Industrial Relations Manager, Holeproof Hosiery Co.

THE SUPPLY of good seamless-knitting-machine fixers available to the seamless hosiery industry has been declining for many years. The causes are many and varied and can be enumerated from first-hand experience by any hosiery mill operator. Until recently, the Armed Services were taking away some of the best mechanics and war production industries were absorbing others.

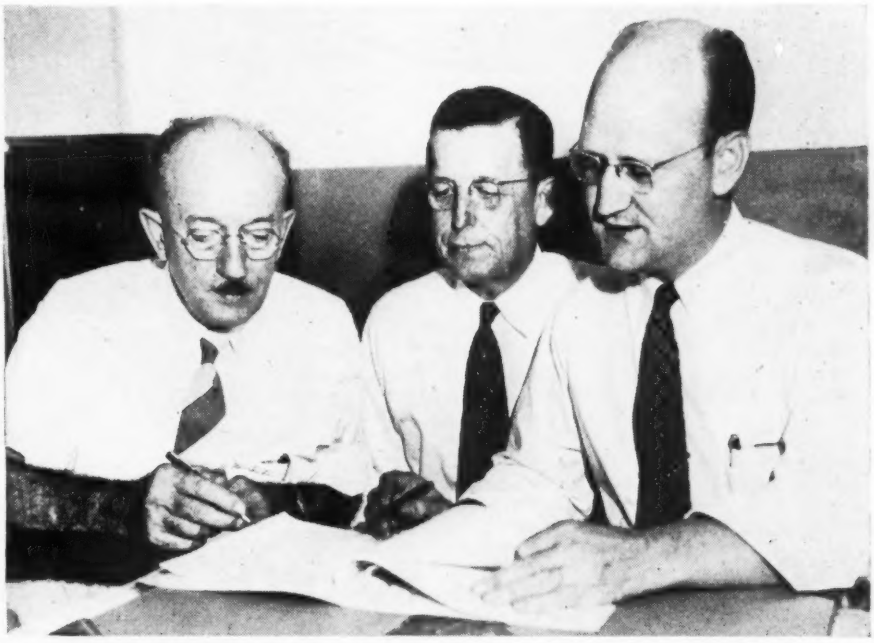
Unfortunately, many of these men who have left the seamless hosiery industry will not return. Some will have found greener pastures in other lines of endeavor, taking jobs on peacetime production with their wartime employers; others have or will go in business for themselves; still others will desire to live and work in communities which they have found to their liking far removed from the hosiery producing centers.

Probably the most important and root cause of the present shortage of good fixers is the failure on the part of hosiery manufacturers adequately to train fixers during the long-drawn-out depression of the 1930s. At that time, production was down, labor was plentiful, finances were strained—not a propituous period to spend time, effort, or money in training specialists, when the supply already exceeded the demand. But depression or prosperity, men do get old, change jobs, migrate, or otherwise fade out of the picture.

Now that you are thinking about re-vitalizing your organization for post-war, rebuilding your depleted second shift, or maybe starting up that third shift you once had, where are you, and all the rest of us, going to get the kind of qualified and experienced fixers needed to do a good job? The question almost answers itself. You, and we, are going to have to train the men we need.

There are several methods employed in training seamless-knitting-machine fixers. There are the promoted knitter-fixer and so-called "apprentice-trained" fixer, who are merely exposed to opportunities to learn, without any organized plan of training. These methods have resulted in the production of some good fixers, but haven't these been all too few? What about the many who didn't make the grade at all, or who became second or third-rate mechanics? Didn't they cost you just as much or more to train as the few good men you did manage to get?

ADEQUATE PROGRAM. The Holeproof Hosiery Co. has had experience with almost all known methods of training seamless-hosiery-machine fixers, and the most successful of all methods has been a thorough-going apprentice-training program backed by a plan of action which directs the trainee step-by-step through the whole program, and provides for adequate instruction on the job, necessary class-room work, examinations, and follow-up all along the route. This method, when last



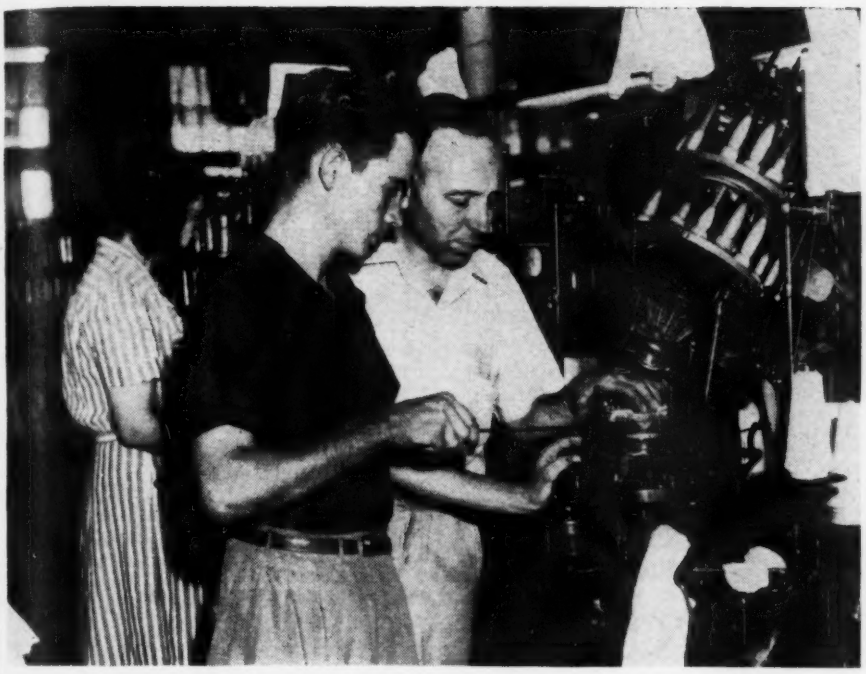
From the left: George W. Kappes, research director and director of apprentices; W. Ernest Spain of Apprentice-Training Service; Ray Torgersen, industrial relations manager, discuss program recently installed at Holeproof.

The Quality of Boger and Crawford knitting yarn is guaranteed —the highest tribute we can pay it. Signed . . . . . .

Fredericka Boger

BOGER and CRAWFORD ***PHILADELPHIA, PA.***

UTICA, N. Y. • BOGER CITY, N. C. • BOSTON, MASS. • CHICAGO, ILL.



Apprentice Houston and Instructor Tracy Teague adjusting a machine.

used, provided the company with a complement of fixers second to none in the industry, and, further, provided several men of outstanding ability who were upgraded to supervisory positions.

An apprentice-training program, to be worthy of the name, should produce a high degree of skill, ability, and competence in the trainee. The apprentice graduate should be flexible enough to handle several types of machines, should be well versed in company policies and standards, should have a broad background of knowledge of the trade and related subjects, and have an appreciation of the problems of every other department of the mill, insofar as his work as a fixer might have a bearing on that problem.

To ground a man adequately in an appreciation of the problems of the other departments, the best method is to let him, as an apprentice, spend some time in those departments, a little or a lot, depending on the complexity and importance of the unit. For example, how better could a fixer-apprentice gain knowledge of the looping department's problems and an appreciation of the connection between his work as a fixer in adjusting loose courses, finger holds and toes, and ring toes on the productivity and earnings of the looper, than by spending a few weeks in the looping department, performing useful work while there?

After having had a good fixer-apprentice training program and having stopped this training long since, we have determined to launch a new program, and are now set to go ahead with it.

In setting up this new program, we have found invaluable assistance in the form of help, advice, and collaboration on the part of the Apprentice Training Service of the War Manpower Commission, and the Georgia State Department of Vocational Education.

In setting up an Apprentice Training Program to develop seamless-knitting-machine fixers with the qualifications demanded by the hosiery industry, there are three principal items which must be developed: 1. A set of apprentice standards (program specifications); 2. A list of work processes (i.e., items of work-experience which you want your apprentice to have); 3. An outline of related instruction or knowledge needed to perform the work properly.

APPRENTICESHIP STANDARDS. These standards comprise a written plan of training, developed by the management with the assistance and advice of the Apprentice Training Service and usually set up somewhat according to the following scheme:

1. *Foreword.* The foreword of standards usually sets forth briefly the general objectives and may contain specific reasons why the firm desires a systematic plan for the training of its apprentices.

2. *Definitions.* The most commonly used terms of the standards are clarified to minimize misinterpretations.

3. *Qualifications of Apprentices.* Care should be given to the apprentice's suitability for the work, educational background, age, physical conditions, and aptitudes.

4. *Apprenticeship Term.* The term of apprenticeship is usually stated in hours or years. Under normal operating conditions, a two-year apprenticeship would be 4,000 hours; three years, 6,000 hours; etc. The apprentice should be allowed sufficient time on each of the major processes to develop a high degree of skill and efficiency.

5. *Probationary Period.* In this try-out period if the apprentice decides that he does not like the work or the employer does not believe that the apprentice has the necessary aptitudes, a dissolution of the employment can be made without difficulty.

6. *Work Experience.* It is important that this outline fit the need of the firm and provide constructive all-around experience for the apprentice.

7. *Related Instruction.* This instruction must parallel the on-the-job work experience to provide the apprentice with technical and related instruction in line with his work, and should be given by qualified instructors through the vocational department of public schools.

8. *Examination of Apprentices.* Provisions are made to examine the apprentice periodically, usually before advancement from one pay period to the next, to ascertain if the apprentice's performance has been satisfactory. In case an apprentice has fallen below an acceptable grade in his work or classroom attendance, he may be held in the then-current period for a reasonable time until his grade and performance are satisfactory.

9. *Hours of Work.* This usually conforms with the existing employment schedule or arrangement.

10. *Wages.* The wage schedule set up in the standards is always in full conformity with the established rates in the firm or trade. It usually begins at the minimum starting rate and averages over the apprenticeship term about 50% of the top rate for the mechanics in the trade.

11. *Discipline.* This section gives the rule-violations or failures which set up precedents for dismissal or penalization of apprentices.

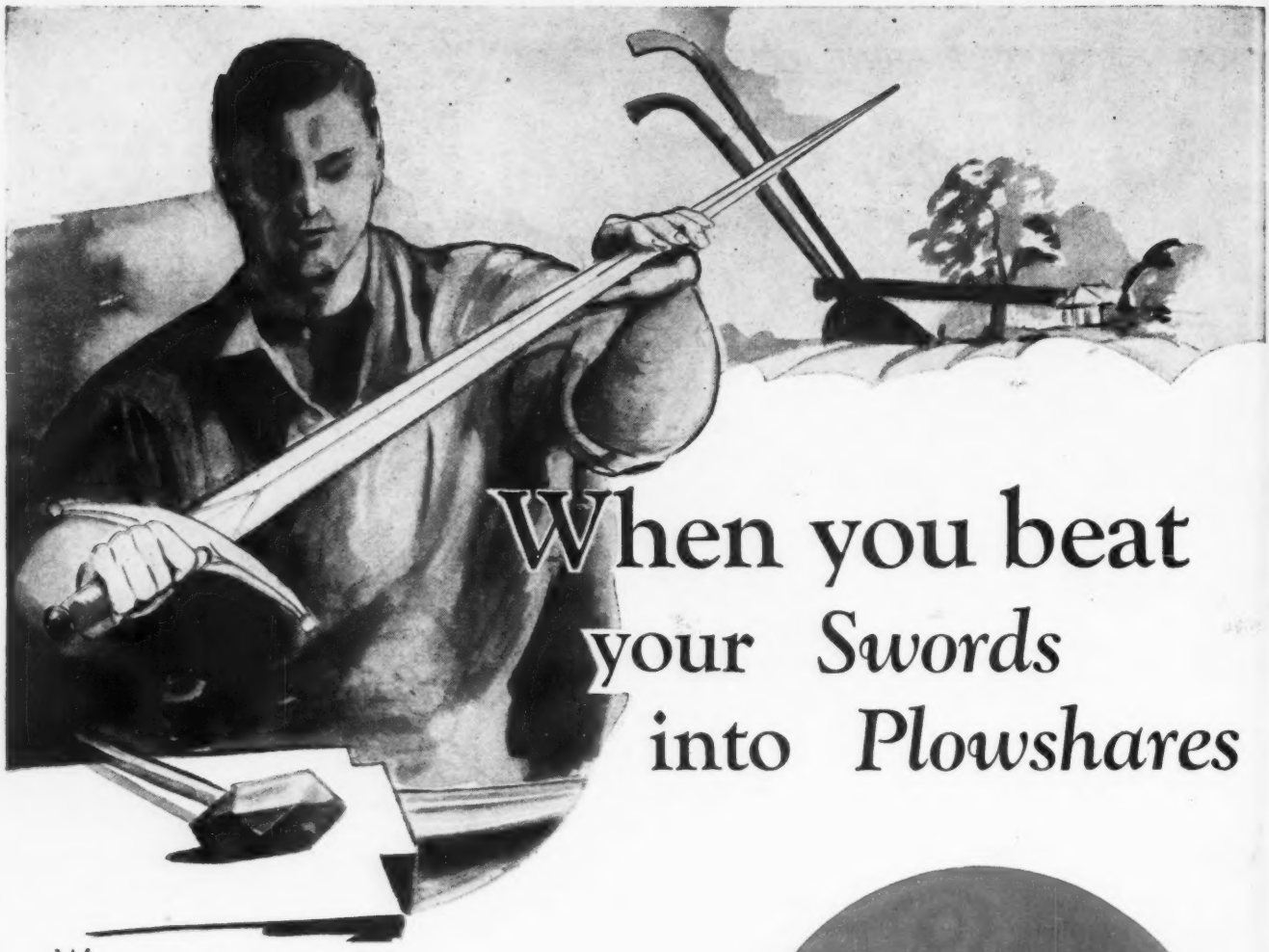
12. *Apprenticeship Agreement.* This agreement sets forth that the employer will provide adequate opportunities for the apprentice to become a qualified craftsman and the apprentice agrees to perform diligently the prescribed tasks set forth in the standards and regularly attend the established instruction classes. The apprenticeship standards are usually made a part of this agreement.

13. *Registration of Apprentices.* When the standards of apprenticeship are approved, they are registered with the Federal Committee on Apprenticeship, and each apprenticeship agreement is similarly registered with FCA. This registration provides identification of the apprentice, records the firm as participating in formalized apprenticeship training, and provides for both continued technical service and assistance toward the general objectives.

14. *Sponsoring or Administrative Panel or Committee.* A sponsoring group or committee is usually selected to assist in establishing the desired pattern of training, and, after approval, to guide, advise, and assist in the operation of the apprenticeship program. In firms where there is no bargaining agreement, this panel is made up of the plant superintendent, training or industrial-relations director, and the overseer or supervisors of the department where training will be given.

15. *Supervision of Apprentices.* Proper supervision is stipulated. The responsible person might be an apprenticeship supervisor, or the department supervisor, foreman, or mechanic under whom the apprentice is taking his training. In the classroom, the supervisor is the instructor.

16. *Certificate of Completion of Apprenticeship.* When an apprentice has completed his prescribed training to the satisfaction of the sponsoring or administrative group, on recommendation a Certificate of Completion of Apprenticeship will be issued by the Federal Committee on Apprenticeship which has



When you beat your *Swords* into *Plowshares*

We are again in a buyer's market.

When you beat your swords into plowshares, remember that everyone else is doing the same thing and rushing his goods to market.

Send your products into today's competetive markets in eye-catching, sales-compelling boxes by OLD DOMINION. Packages by OLD DOMINION have always been effective in increasing sales and our experiences in solving tough war-time problems have made our creative, engineering and production departments more resourceful than ever before.

Let OLD DOMINION plan and produce your boxes.

Fine Boxes for Fine Products

Call On

OLD DOMINION BOX COMPANY

CHARLOTTE, NORTH CAROLINA

PLANTS IN TEN SOUTHERN CITIES

Folding Cartons • Set-Up Boxes • Convolute • Spiral Wound and Corrugated Containers

"THE SOUTHERN BOXMAKER WITH A NATIONAL REPUTATION"

New York Representatives, BAKER PRESS 228 East 45th St., New York 17, N. Y., Murray Hill 2-6492

the import of like certificates or diplomas from school or college.

17. *Special Provisions.* Any unusual circonstance or condition should be set forth, such as credit for previous experience in the trade; a provision making the standards a part of the apprenticeship agreement; any other alternative conditions not elsewhere included. Conditions surrounding books, tools, bonuses, or awards are sometimes set forth.

18. *Modification of Apprenticeship Standards.* It should be set forth that the apprenticeship standards may be modified or amended at any time by the administrative or sponsoring group so long as such changes do not affect apprenticeship agreements in effect at the time of the proposed changes, unless such changes are agreed upon in writing by the apprentice and his employer.

WORK PROCESSES. The schedule of work processes is a listing of the work-experiences or skills determined to be desirable for the apprentice to acquire, and will vary depending upon company policies, type and kind of equipment, and anticipated scope and objectives of the apprentice-training program as determined by management. This list is prepared by practical mill men, together with representatives of management, with the assistance of the Apprentice Training Service.

RELATED INSTRUCTION. To perform most intelligently the various manipulative skills required of a knitting-machine fixer, the apprentice must be taught the technical information inherent in the work of the fixer. This will include such topics as; kinds, properties, and uses of yarns; specifications for hosiery; knitting processes; common defects in knitting and their causes; principles of dyeing; types and kinds of knitting machines; hazards and safety practice; costs of materials and of parts; cost of spoilage; and relationships between the knitting department and other departments of the plant. These topics cannot be adequately learned through practice of manipulative operations at the machines. They may profitably be studied in a classroom apart from the production section of the plant.

Since the technical topics which the apprentice should learn are those that contribute to his intelligent manipulative performances, the logical procedure for determining these topics is to canvass thoroughly the list of work processes which the journeyman knitting-machine fixer must perform. Such a list was worked out at Holeproof Hosiery Co. with the assistance of representatives of the Apprentice Training Service of WMC.

The proposed apprenticeship program specifies that the technical and related instruction shall be given by qualified instructors through funds provided by the vocational department of the public schools. This brings into the program the State Vocational Education Service, which agency must appropriate the funds. In daily two-hour sessions extending through more than four weeks, the detailed list of work processes was carefully studied in order to identify the topics of technical or related knowledge which the apprentice should learn and which could be separated from his work experience in the mill and studied in the classroom. Topics thus derived are truly related to the work processes and represent what the knitting-machine fixer *must know*.

With such a carefully derived list of items, the teacher is not left to guess what would be "nice" for apprentices to learn. He is furnished with an authoritative content which he is to organize into effective learning units or lessons.

Each item of related instruction should appear opposite the work process to which it is related. Thereby the instructor in related work, by observing the apprentice progress chart, can assign to any apprentice the topics for study which will pertain to the particular work station in which he may currently be. This perfect coordination of work and study precludes study of informational topics that must be held in mental cold storage for a considerable time before the knowledge is applied in practice on the job. When the apprentice studies information which he needs to know at the moment, the highest motivation for that study will prevail. Some group or class instruction is feasible, but much individual instruction will be necessary because apprentices will not all be currently engaged on the same work processes.

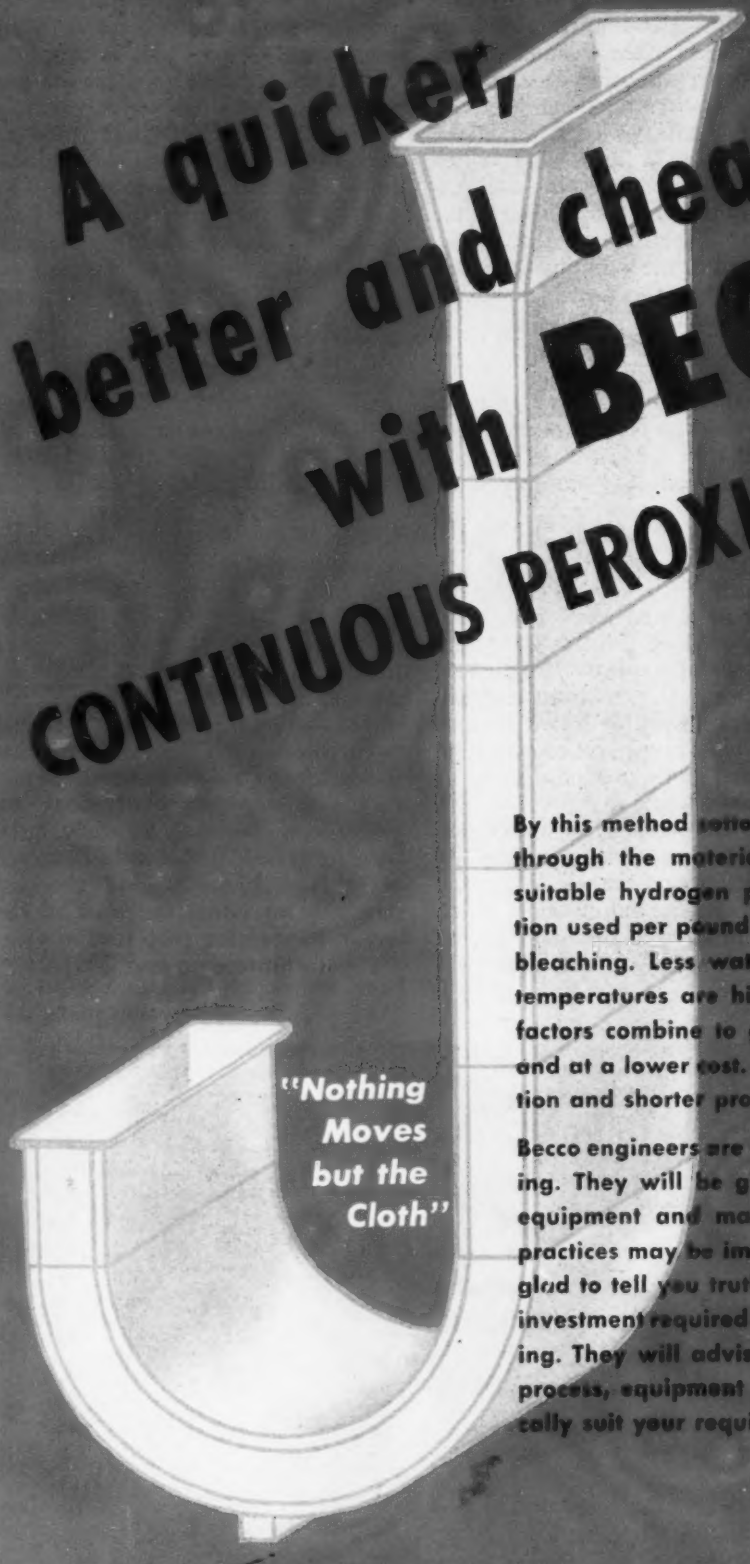
It is planned that the plant will provide a classroom in which each apprentice will spend definite study periods within his regularly employed time. This classroom will be equipped with study tables, chairs, adequate blackboard space, and other essential schoolroom facilities. There will be available an abundance of reference materials, such as books dealing with textile materials and processes, manufacturers' catalogs and parts lists of the machines used in the mill, wall charts showing the various mechanisms with which the apprentice must become familiar, textile trade publications, and bulletins from government agencies. A typical knitting machine and various separate units of machines are desirable for illustrative purposes. Samples of various yarns should be available. Samples of defective products are instructive in studying the causes and prevention of defects.

The major topics of study should be prepared in the form of instruction sheets, giving the necessary information with adequate illustrations, together with directions for study, questions for review, problems to be solved or other assignments, and checking standards for rating the work of the lesson. In studying properties of yarns

(*Continued on page 200*)

Another view of Holeproof's circular knitting machines, with Luther Rainey, journeyman fixer in action.

A quicker, better and cheaper bleach with BECCO CONTINUOUS PEROXIDE BLEACHING



By this method cotton goods are bleached by forcing steam through the material after it has been saturated with a suitable hydrogen peroxide solution. The amount of solution used per pound of cloth is much less than used for kier bleaching. Less water has to be heated. By using steam, temperatures are higher than used heretofore. Both these factors combine to give a better bleach, in a shorter time and at a lower cost. Steam bleaching means higher production and shorter processing time.

Becco engineers are experts in all branches of textile bleaching. They will be glad to survey your plant facilities and equipment and make recommendations as to how plant practices may be improved and costs reduced. They will be glad to tell you truthfully whether your volume justifies the investment required for the installation of continuous bleaching. They will advise you as to the best and most suitable process, equipment and chemicals to use to most economically suit your requirements.

BECCO SALES CORPORATION

AGENTS FOR BUFFALO ELECTRO-CHEMICAL CO., INC., BUFFALO 7, N. Y.

New York Boston Philadelphia Chicago Charlotte

FAR-EAST TEXTILE MILLS
Aim at Quick Revival

HIGHLIGHTS: *— China recovers over half her prewar spindles—Has less interest in second-hand machinery—Was reduced to 230,000 spindles during war period—Using tree cotton extensively—Japan planning sericulture revival and hopes to ship manufactured silk for reparations.*

Ralph E. Loper, who recently returned from a special governmental mission to China.

As consequence of the sudden ending of the war, which balked plans of the retreating Japanese to destroy the mills, China is recovering some 3,000,000 cotton spinning spindles which are in fair condition, according to Ralph E. Loper, of Ralph E. Loper & Co., industrial engineers, in a recent address before the Association of Cotton Textile Merchants of New York. China in 1937 had 5,560,000 spindles. Currently, Chinese interest in second-hand American textile machinery is somewhat less than it was, owing to this unexpected recovery of those 3,000,000 spindles, Mr. Loper stated. The other 2,000,000 spindles, he said, either had been destroyed or had been broken up for scrap and shipped to Japan.

Mr. Loper recently spent several months in China on a special textile mission for the Government. He pointed out that Free China was reduced to 230,000 spindles during the war period, but managed to supply its armies with clothing and had a small margin available for the needs of its civilian population. These 230,000 spindles were located in and near Chungking, consisting of 30,000 spindles originally in the free area and some 200,000 spindles which were moved in advance of the invading Japanese armies. One mill's machinery, when dismantled, was packed in 117,000 boxes and cases and moved, partly by steamer, partly on junks, and ultimately on the backs of coolies to the Chungking site. Plants were set up in small, independent units to minimize losses from constant bombing.

The Chinese mills spun principally 10s, 16s, and 20s yarns. While some weaving was done in mills, much was woven on hand-looms in homes or small factories, 15 to 17 in. goods being produced at about 75 picks per min. Spinning wheels were resurrected to boost the supply with some 77% of the entire production going to the Chinese military. During this period, the civilian supply averaged about one-third of a square yard per capita, equivalent to a single Army handkerchief.

A Cotton Yarn & Cloth Administration was established, said Mr. Loper, with a monopoly on cotton and prices. The agency bought most of the Free China cotton crop and delivered it to spinning mills, giving them a waste allowance and a 20% profit over average cost. It took back the yarn and let that out to weavers, paying them by the piece, and then distributed the goods. By early 1945, China was suffering from a severe black market in textiles. Mr. Loper's mission, working with the Chinese, selected 200 Chungking cloth merchants and consigned cloth to them, fixing prices weekly 5 to 10% under the black market. With the end of the war, black market prices broke about 50%. Values later declined still further.

PLANTING—TREE COTTON. Tree cotton is important in the Chinese cotton supply. Such trees bear in the third year, continuing for about 20 years with semi-annual crops picked in June and December. Two Chinese corporations are developing thousands of acres of this cotton which has $1\frac{1}{16}$- to $1\frac{3}{16}$-in. staple somewhat similar to Egyptian. Other local cotton is short, but the Chinese are working to improve it and are producing in Shensi and Szechuan, cottons which are the equivalent of American print-cloth cotton. During the peak of the scarcity, while the war was still critical, 3,000 tons of raw cotton was flown in to Chungking.

While the war was still on, Mr. Loper took part in an Army mission to obtain cotton from occupied China across the Japanese lines. This involved a dangerous trip through western Hunan in which some 500,000,000 Chinese dollars in high-denomination notes arranged by the Chinese Government were brought to the front. Routes were set up for bringing the cotton through, and the coolies who carried it were paid as soon as it was a few miles into free territory. So successful was this that it was followed up by two more similar trips, each one involving two tons of currency.

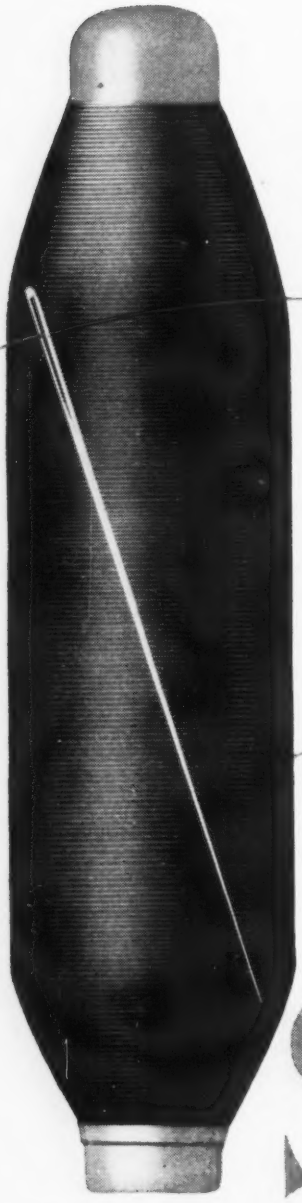
Mr. Loper expressed hope that by the end of the current year commercial relations, with resulting shipments of cloth and machinery to China coast ports, might be resumed. He cited Chinese desires for financial assistance in rebuilding the industry, possibly on a ten-year basis, but with the Chinese anxious to keep control. Asked about possible outlets for surplus war-textiles here, he said China needs all types of goods except heavy duck. He stated that before the war China was able with the spindleage it then had to meet its domestic textile needs.

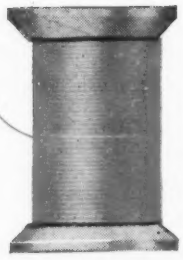
Japan Looks to Textiles For Reparations

With the termination of the war, the Japanese textile industry, which has been relegated to nonessential status during the hostilities, is striving to recover its lost position, according to a recent article appearing in the *Nippon Times*. It will require some time before the production setup can be put into shape; but there is no doubt that the textile industry will head the list of postwar industries, since it is

(*Continued on page 211*)

ready to turn into fresh new textiles





With the onset of full civilian production, it's a heyday for new ideas in the textile industry! And Saran, home from the war, is helping to translate those ideas into satisfying new peacetime fabrics.

Alone or combined with other materials, Saran brings new beauty and durability to a variety of fabric applications . . . purse and luggage coverings, draperies, and many types of upholstery for homes and public places. For Saran is unharmed by punishment that would ruin ordinary materials. It doesn't scuff . . . it's untouched by sunshine, water, and even most chemicals.

Saran is tough, and it's beautiful, too . . . in its smoothness and sheen, its complete range of sparkling colors. It stays fresh and new looking even under hard wear, and the whisk of a damp cloth keeps it free from dirt and other stains.

Alert textile manufacturers and designers are giving an important place to this Dow-developed basic material. Write today for information . . . see how Saran will share in your plans!

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago
St. Louis • Houston • San Francisco • Los Angeles • Seattle

SARAN

AVAILABLE THROUGH LICENSEES

Saran molding compounds, produced by Dow, are extruded as monofilaments or thread by skilled licensees located throughout the country. All of them are in a position to give you details about Saran and its possibilities. These licensees include:

★ Allied Plastics Co., Los Angeles, California
★ Firestone Tire & Rubber Company, Akron, Ohio
★ Hodgman Rubber Company, Framingham, Mass.
★ Irvington Varnish & Insulator Co., Irvington, N. J.
★ National Plastics Products Co., Odenton, Md.
★ Visking Corporation, Chicago, Illinois
★ Western Felt Works, Chicago, Illinois

DOW PLASTICS

BRITISH GOVERNMENT
Moves to Control Textile Industry

HIGHLIGHTS: *Mill men to be outvoiced two to one in a Working Party—Move seen as wedge for eventual government ownership—Steps already taken by industry to improve conditions include experimental mill—Textile advance greater than national average.*

By A. WYN WILLIAMS

LANCASHIRE COTTON MEN have never been more bedevilled, in the long history of their industry, than they are today. For added to the natural reconversion problems are the visionary schemes of a socialist government experimenting in industrial management.

The new President of the Board of Trade, Sir Stafford Cripps, (corresponding to U. S. Secretary of Commerce) on Aug. 11, shortly after assuming office, rejected the nationalization of the cotton-textile industry, once strongly advocated in labor quarters. In outlining his policy for the industry he declared: "It is not part of the present government's program to nationalize the cotton industry . . . The government fully appreciates that if the industry is to continue in the hands of private enterprise, it must yield a reasonable return on the capital actually employed."

A sigh of relief went forth from the Lancashire mill interests. The socialist government was actually recognizing the profit motive. Furthermore, it left to private initiative to make the cotton industry once more "a flourishing industry to provide the goods required for home consumption and export on one hand and good wages and conditions for the operatives on the other." [TEXTILE WORLD, September, page 115.]

CHANGES POSITION. The relief was short-lived. A month after it had said that it rejected nationalization for the cotton industry, Britain's socialist government spawned a body very reminiscent of Soviet's original "soldiers' and workers' council" which would dictate the policies of the cotton-textile industry. To this body was given the name Working Party.

According to Sir Stafford Cripps "The purpose of the Working Party is to report on the steps that should be taken to strengthen the industry and render it more stable and more capable of meeting competition in the home and foreign markets." Only a short month before, the industry had been reassured that it would be left to its own initiative in carrying out these desirable ends. The totalitarian mentality of socialists can never be free for long from the desire to plan for others!

The Working Party that will supply the business wisdom, the Socialists believe lacking in Lancashire businessmen, will consist of twelve members and a chairman. The latter will be appointed by the Government itself. Of the members, four will represent the workers, four the employers, and four independent interests, chiefly the consumers. Thus management, ultimately responsible for the efficient and profitable running of the industry, will be outvoiced by more than two to one in shaping policies.

The businessmen of Lancashire have had to submit, with ill grace, to the proposal. But they have not been silent as to the negative contribution that such a Working Party can make to the solution of problems needing expert knowledge of conditions affecting the industry. The Master Cotton Spinners' Federation, for example, pointed out that the Working Party could contribute nothing more than has been done by management to a solution of the outstanding need of the industry at the present time; namely, the rapid increase of its labor force, now depleted by a third of its number. The "Working Party" scheme in general is seen by its opponents as a thin wedge for eventual ownership of the mills, a policy supposedly rejected by the Labor government a month earlier.

PROBLEM ADMITTED. That the Lancashire cotton-textile industry, once the envy of the world, has fallen behind the parade, no one denies. It is freely admitted that its economic practices and equipment have not been brought into line with progress in technique and organization. The Platt Mission to the United States brought this home most forcibly [TEXTILE WORLD, January, page 82].

It showed that obsolete methods of

(Continued on page 230)

Employers can easily be outvoted in new British set-up.

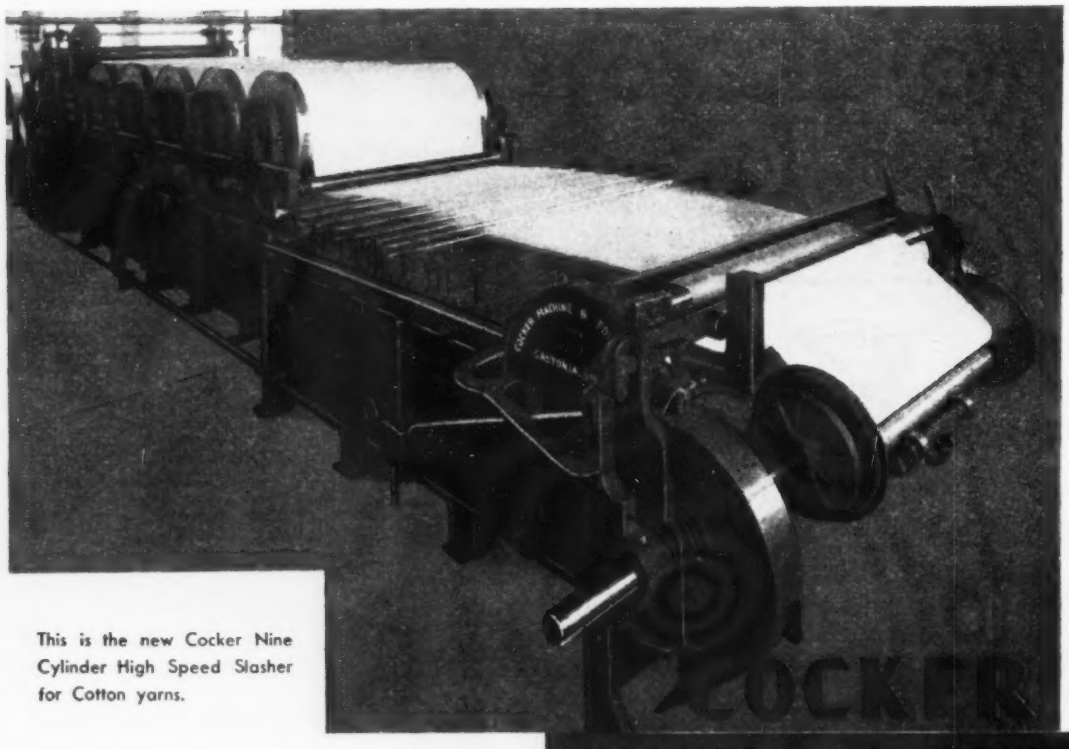
For better weaving Warps, made efficiently and economically, use COCKER WARP PREPARATION EQUIPMENT.

FOR BETTER WEAVING WARPS

This machine has Nine 30" diameter cylinders with rotary packless joints.... A Graduated Drive permits speed changes without over-run on beams or strain on yarn.... Syphon Condensate Remover with individual traps on each cylinder.... Heavy Frame to eliminate vibration.

It will pay you to investigate the many features of Cocker Warpers, Creels and Slashers which assure better warps of Rayon, Acetate, Cotton, Spun Rayon and Nylon.

Write our Department A for full information.



This is the new Cocker Nine Cylinder High Speed Slasher for Cotton yarns.

Our engineering staff is trained by years of experience to solve individual problems.

COCKER MACHINE & FOUNDRY COMPANY
GASTONIA, NORTH CAROLINA

Requirements of DIELECTRIC HEATING Can Be Calculated From Formulas

HIGHLIGHTS: *Heating by high-frequency costs from $0.025 to $0.04 per kwh.—Size of electrodes may be a limiting factor in using high-frequency heating for some textile applications.*

WITH HIGH-FREQUENCY HEATING receiving much publicity, it is desirable to stop for a moment to take stock and also review its limitations. These points are interlocked, to some degree, with each other. Hence, in discussing each individually or considering an actual application, it is well to remember these inter-relations.

COST. High-frequency energy is not a cheap source of heat. In terms of dollars per kwh., it will cost approximately $0.025 to $0.04, including direct operating cost, maintenance, and amortization.

However, it becomes economical by virtue of one or more of these factors:

1. It produces a result not usually possible by other methods of heating.
2. It increases the speed of a process and saves labor and/or over-all equipment cost.
3. It produces or confines the heating in the part or point where needed, thus reducing overall power consumption.
4. It is clean and compact.
5. It reduces rejects or improves the production quality of a product.
6. It is flexible in its application to a variety of operations, processes, or products.

These factors are often of sufficient importance to make an application economically attractive.

MATERIAL. Dielectric heating is applicable to materials normally considered poor conductors of electricity, such as most textile materials and insulators. When the electrical resistivity of a material drops below 1,000 ohms per cm., it is usually possible or necessary to use some technique other than dielectric heating. The state and characteristic of the material, such as amount of moisture, whether the material is in yarn or fabric form and the openness of the weave have considerable influence on the dielectric value. The accompanying table gives dielectric values for some textile materials. However, these are only approximate values and will be changed by the variables just mentioned.

A convenient formula for calculating the heating in dielectric materials is given by the equation:

$$W = \frac{1.41\, A\, f\, E^2\, e'' \times 10^{-12}}{d}$$

where W = rate of heating in watts
A = area of electrode in square inches
d = thickness of material in inches
f = frequency in cycles per second
E = voltage RMS between electrodes
e'' = loss factor of material

Assume that a textile mill wishes to use high-frequency heating to bring about polymerization in a roll of resin-impregnated fabric and that the roll is 48-in. long and 14 in. in diameter. Also assume that a frequency of 7,000,000 cycles per second is best for handling this material. Then the area required for electrode surface is found (overlap of electrode is disregarded in this theoretical case) as follows: 48 x 14 = 672 sq. in. Assume that an electrode voltage of 10 kv. may be obtained. The loss factor is given in the accompanying table. Then:

$$\text{watts} = \frac{(1.41)\ (672)\ (7{,}000{,}000)\ (10{,}000^2)\ (.25)\ (10^{-12})}{14} = 11{,}800 \text{ watts}$$

Thus a 15 kw. generator would be selected.

DIMENSIONS. The dimensions of the piece of dielectric material are important in that they may influence an application as to frequency, rate of production, or design of the electrode.

In general, dielectric heating becomes attractive when the thickness of the material is sufficient to make it difficult to heat the material throughout by conventional means. In terms of inches, this will vary with the thermal conductivity of the material.

The thickness of the material must be reasonably uniform if uniform heating is desired. Thus rolls of cloth may be handled by this method of heating better than cloth in the open width. The same applies to cones of yarn vs. single yarn ends.

The area of material to be heated will limit in two ways the frequency which may be used. First, the capacity reactance of a large area may become sufficiently low as to make tuning the load extremely difficult, if not impossible. The currents involved may also reach magnitudes difficult to handle. Second, the length of the load may be such as to produce standing waves. This will be discussed further under frequency limitations.

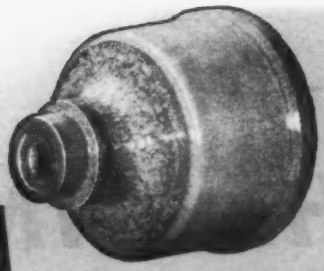
Sometimes it is possible to scan the material (move continuously between the electrodes), thus reducing the electrode area to a value which permits convenient adjustments and use of a frequency sufficiently high to produce a desired rate of heating.

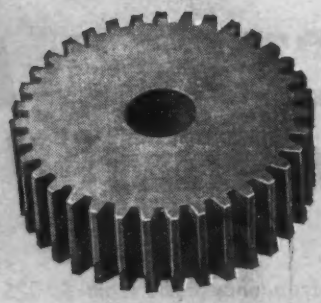
FREQUENCY. In general, since the amount of energy introduced into the material is proportional to frequency, it is desirable to use as high a frequency as possible. A compromise is usually necessary, however, due to one or more limitations.

The length of the material may be

Dielectric Properties of Textiles

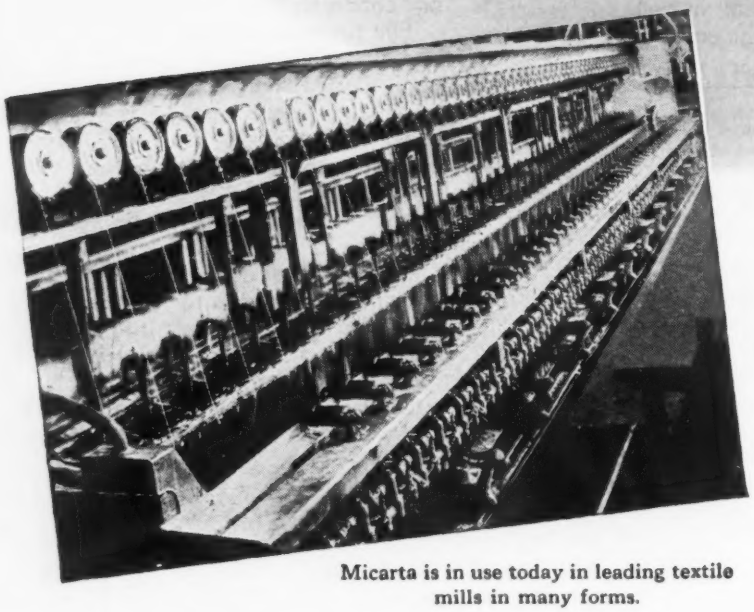
Material	Dielectric Constant	Power Factor, %	Loss Factor
Rayon, dry	2.1	8.5	0.18
Nylon	3.6	2.2	0.79
Saran, Velon	3 to 5	3.0 to 5.0	09 to .25
Fabric	5.0	5.0	0.25
Empire cloth	2.0	poor	





SMOOTH TOUGH LONG WEARING AND STAINLESS

in textile mill applications



Micarta is in use today in leading textile mills in many forms.

FOR SPINNING BUCKETS—Micarta is formed to precise dimensions—vibration free at 8000 rpm—and stainless.

FOR PIRNS—Micarta can be machined to 0.001 inch—for high-speed rotation without vibration, for lasting smoothness.

FOR GEARS—Micarta cuts down friction, is quiet in operation, is easy to lubricate, will not spark.

WESTINGHOUSE

Micarta

Compare Micarta with any other material—not one has a more valuable combination of properties for textile mill applications!

Micarta is smooth, tough and long wearing. It resists water, oil and dilute acids. It absorbs vibration and deadens noise. It will not stain delicate fabrics.

For textile mill uses, Micarta can be molded to close tolerances as in the Micarta spinning buckets shown above. It can be fabricated easily from laminated stock shapes with ordinary tools, as with the Micarta gear and pirn illustrated. In a new form—Micarta "444" preformed sheets—it can be post-formed with inexpensive dies into intricate, permanent shapes.

Full details on Micarta characteristics are contained in Micarta Data Book B-3184-A. Write for your copy. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

J-06376

such as to produce uneven heating due to a standing wave effect. The higher the frequency used, the greater the probability of unequal voltage distribution over a given length or area. If the longest dimension of the electrodes is a small fraction of a wave length, or if the material is scanned, this effect is minimized. Ordinarily if the longest distance from the point of connection with the high frequency source to the edge or corner of the high voltage electrode is less than $\frac{1}{8}$ of a wave length, very little trouble will be experienced.

From a textile angle, assume that a frequency of 8,000,000 cycles per second is being used. To find the wave length in meters, the following formula is employed:

$$\text{wave length (meters)} = \frac{300,000,000}{\text{frequency}}$$

Thus, if the frequency is 8,000,000 cps., 300,000,000 divided by 8,000,000 gives a wave length 37.5 meters. But, the length of the electrode should be less than $\frac{1}{8}$ of this, or 2.34 meters, or 92 in. For best results, cloth not over 90 in. in length should be treated. As the frequency used increases, the practical length of the electrode decreases. If a mill intends to utilize this equipment for treating wide cloth, it is evident that the cloth width may be limited for the higher frequencies unless it is possible to scan the cloth. Otherwise, a lower frequency must be employed.

Heating will be sufficiently uniform when the length of the electrode is limited to $\frac{1}{4}$ the wave length to produce a variation of less than 20% over the area involved. In some processes, this may be intolerable, restricting the maximum frequency (or maximum dimensions of the work) to a still lower value.

The *maximum* frequency which can be used without exceeding the above variation in heating can be determined from the formula:

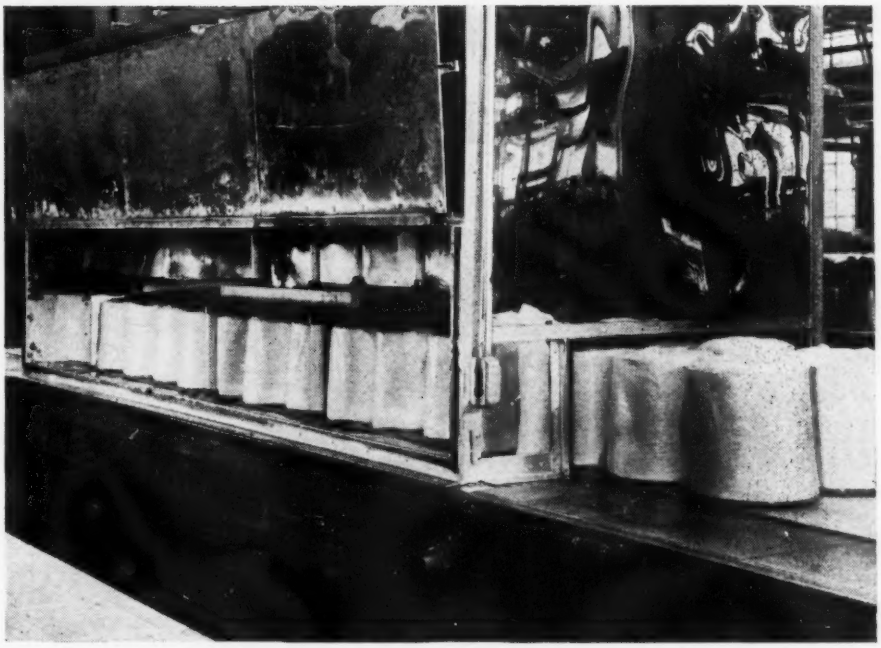
$$f = \frac{62.5}{l\sqrt{e'}}$$

where f = frequency in megacycles
l = maximum distance from point of connection to edge or corner of high voltage electrode in feet
e' = dielectric constant of material (specific inductive capacity)

Assume that a mill desires to treat rolls of impregnated cloth by high frequency to bring about polymerization of the resin. The cloth rolls are 48 in. in length, so consider the electrode as 4 ft. in length. The dielectric constant is 5.0 (obtained from the table), then using the above formula:

$$\text{frequency in megacycles} = \frac{62.5}{(4)\sqrt{(5.0)}} = 3.12$$

A frequency of 3.12 megacycles or 3,120,000 cycles would be best for the fabric requirements.



Dielectric heating to bring about the setting of twist in these large cones of tire yarns is accomplished by scanning, that is, by passing the cones between the electrodes on a conveyor belt. Top electrode can be seen held slightly above the top of the cones.

Photo courtesy of Industrial Rayon Corp.

Another limitation occasionally encountered is that of generator design for high power at high frequencies. From a practical viewpoint at the moment it appears undesirable to use frequencies above 20 megacycles when powers above about 20 kw. are involved. However, for most textile work this high frequency is seldom employed.

VOLTAGE. The power input to the material is proportional to the voltage squared. Hence, if the voltage is increased sufficiently, considerable power can be supplied to the work at relatively low frequencies. As textile work is at the lower frequencies, voltage should be kept as high as possible. Two factors limit the voltage which may be applied.

The total voltage between electrodes should be kept under 15,000 volts.

The voltage gradient, that is, the voltage per inch, permissible through the material may be a limiting factor. The radio frequency voltage which will puncture a given dielectric material is generally much lower than the 60-cycle voltage which a material will stand. It appears desirable to keep the voltage gradient below 2,000 volts in porous materials and less than 5,000 volts on less porous textile materials.

Another type of voltage limitation may be reached in applications where it is impossible to have the electrodes in contact with the material. This gives rise to a condition in which the space between the electrodes is occupied by two materials of widely different dielectric constants, such as cloth and air. The potential distribution in this case may be such as to cause a breakdown of the surrounding medium (usually air) which is a waste of power.

LOSS FACTOR. This is a term commonly used to express the degree to which materials will absorb energy by dielectric-heating technique. It is easily measured by means of proper equipment. Referring to the first equation, it is obvious that as the loss factor approaches zero, it becomes increasingly difficult to transfer power into the material. A practical lower limit in the loss factor of materials which can be heated effectively appears to be between 0.005 and 0.01.

ELECTRODES. A whole treatise could be written on electrode design. One point is the fact that heat is not generated in the electrodes to any appreciable degree by the dielectric heating process. The electrodes may be heated by heat transfer from the dielectric material being processed. Often this is undesirable due to the temperature reduction of the adjacent material and may become a limiting factor in some processes. Various simple methods are in common use to minimize this effect.

Acknowledgment: Material contained in this article is based on a report prepared by Carl J. Madsen, Electronics Engineer, Westinghouse Electric Corp., East Pittsburg, Pa.

STANTEX OILS

meet specific requirements!

You'll find a Stantex product to meet every processing, dyeing and finishing problem. Standard Chemical Products are an accepted standard among textile manufacturers, because they are compounded under strictest laboratory control, geared to meet special needs of individual processors. Many mill owners regard ours as *their* laboratory, because our technicians are specially trained to widen bottlenecks . . . to disentangle snarls confronting textile production programs.

Yes, Standard Chemical Products' staff is ready at all times to assist you with sound, friendly advice based on actual mill experience and intensive training.

For full details, call in a Standard Chemical Products' representative.

"STANTEX" Coning Oils

STANTEOSINE Softener — for piece goods finishing

"STANDAPOL" and "STANTEX"—finishing, sizing and throwing oils

"LANAFIN" Size No. 72 (water soluble)

"STANTEX" 629 Static Inhibitor

"LANAFIN" Soaps and Oils

PYROTEX—for boil-off and dyeing

"STANTEX" 3005 Finish (Staple Fibers)

STANDARD CHEMICAL PRODUCTS, Inc.

PROVIDENCE, R. I. HIGH POINT, N. C. **1301 JEFFERSON STREET, HOBOKEN, NEW JERSEY** CHATTANOOGA, TENN. SACRAMENTO, CAL. PATERSON, N. J.

ARMY TEXTILES Are Unsuitable, Say QM Officers

HIGHLIGHTS: *Continued research needed despite many wartime developments—Quartermaster work on textiles to be consolidated at Philadelphia—Savings from only one development were more than research cost—New medium-tenacity acetate rayon disclosed.*

By GLADYS MONTGOMERY
Washington Editor, TEXTILE WORLD

CONTINUED RESEARCH in textiles as a basic "must" was stressed by Gen. Georges Doriot, head of the Research & Planning Division, Office of Quartermaster General, in his address before a small group of industry and association leaders meeting recently for a day's session at the National Academy of Sciences in Washington.

"No single item in Quartermaster equipment today should be used in fighting another war," Gen. Doriot emphasized.

Announcing plans of the Army to center all its textile research and developmental facilities in Philadelphia, he added that there would be test stations set up in Alaska, Panama, and at such other points as may be found advisable. Lack of trained Army personnel to carry out this work is considered the greatest obstacle. Hence a plan is being formulated whereby promising young graduates will be enlisted from universities to work on Army textile research problems, with the opportunity at the same time to engage in postgraduate studies. It is hoped that the textile industry will be willing to loan men for this work, he said.

Speakers at the conference uniformly stressed the fact that improvements made in fabrics for military use can be translated with advantage into production for civilian use. Hence, it was generally taken for granted that the textile industry has a vital stake in the success of this postwar program.

PROBLEMS POSED. Lt. Col. Stephen J. Kennedy, chief of the textile section, Research & Development Branch, OQMG, briefly summarized the more important accomplishments in textile research. In so doing, he posed a series of problems around which the discussion centered. The problems outlined by Col. Kennedy concerned (1) water resistant fabrics, (2) military webbing, (3) equipment for sleeping in the field, (4) tents, (5) shrink-resistant wool items, (7) abrasion-resistant textiles, (7) fabrics to withstand tropical deterioriation, and (7) new materials and processes for military use.

The abandonment of wool in outer garments of Army combat clothing he named as one of the most important changes in military textiles during the war. Lighter-weight cotton textiles showed themselves to be far superior in wind and water resistance in all controlled laboratory and field tests as well as in actual combat. Developments included Grenfell cloth, Byrd cloth, water-resistant poplin, and 9 oz. wind-resistant sateen. Research by Dr. F. T. Poiree, formerly of the Shirley Institute, now director of research in the Textile School of North Carolina State College, led to the construction of a dense fabric with a high warp cover, using oxford weave to permit laying in a large number of warp ends. Several fabrics using such construction were adopted for winter combat clothing and the like, with 9 oz. wind-resistant oxford as the standard fabric.

"Such developments do not by any means represent the ultimate in water-resistant fabric development," Col. Kennedy declared. "We have the promise of important developments in the field of silicone chemistry, from a unique group of hydrophobic materials, which may be an ideal type of material to apply to water-resistant fabrics."

PLASTIC FILMS. "The plastic industry may find water-resistant fabrics with all the important properties of conventional woven textiles and some other desirable properties besides," he stated. For example, some plastic films have been developed with the necessary impermeability to water and with the promise of having satisfactory water-vapor permeability. These films are "amazingly tough and even cheaper today than cloth."

Chandler Robbins, who spoke on "Synthetic Fibers in the QM War Program," suggested that the solution of the problem may lie in the synthetic field; and intimated that "it is not too much to hope that by modifying the structure of an existing synthetic fiber, or by making a new one, the ideal building material can be provided for military outer clothing."

Lt. Col. Stephen J. Kennedy, chief of QM textile section, was formerly with Pacific Mills.
Photo by Buchrach

A further threat that plastics may replace textiles was interpreted from Col. Kennedy's statement that, "with the further improvements in strength and notch resistance of plastic films of the type already sold commercially in suspenders and garters, materials of this type may ultimately replace textile webbing in military uses."

With regard to equipment for sleeping in the field, Col. Kennedy said, "It appears highly improbable that satisfactory insulating material can be found in any of the natural fibers or filling materials. There is reason to believe, however, that developments in the fields of synthetic fibers will ultimately produce a satisfactory fiber for this purpose. The most promising fiber being tested is Fiberglas. . . . For the outer case on sleeping bags, we have used water-vapor-permeable, water-resistant fabrics which need further improvements."

A satisfactory tent fabric, it was

ORONITE CHEMICALS

THE NAME TO WATCH IN CHEMICALS

IT TAKES A GOOD WEAVER TO CREATE A FINE CLOTH

The warp and woof of chemistry is intelligent research. Like the cloth from a loom, the chemical material you get is no better than the men who created it. For this reason, it is well to consider thoroughly the organization behind the product.

"Oronite"* is the name to watch in chemicals. You can look to this prime source for materials to fit your requirements—whether it's wetting agents for textiles... chemicals for protective coatings... naphthenic acids for metallic naphthenates... or cresylics for killing germs. Furthermore, you can enlist the assistance of an able group of research chemists in finding the solution to your special problems. Your letter incurs no obligation.

* Reg. U. S. Pat. Off.

1003

ORONITE CHEMICAL COMPANY

Russ Building, San Francisco 4, California
White-Henry-Stewart Bldg., Seattle 1, Wash.

30 Rockefeller Plaza, New York 20, N. Y.
Standard Oil Bldg., Los Angeles 15, Calif.

brought out, has not been determined. In tents there is the problem not only of water, but also of the decomposition of cellulose by the action of the rays of the sun and by attack from micro-organisms, as well as further critical hazard from fire. Because the testing of tents and tentage fabrics and finishes is a long process, requiring exposure to the elements, Col. Kennedy pointed out that some conclusions will have to await tests now underway, such as the large-scale exposure test at Camp Lee.

PLIED-YARN DUCK IS OUT. "It appears at present," Col. Kennedy said, "that plied-yarn duck will never again need to be used for Army tents, that lighter-weight single-yarn fabrics, far more available in an emergency, will not be adequate but will be better from the standpoint of water-resistance than the heavy plied-yarn ducks which were standard during the war." That a light-weight fabric with all of the desirable properties can be produced from a synthetic fiber is considered altogether possible by Chandler Robbins.

The American wool industry was not prepared at the outbreak of the war to deal with the military necessity of washing wool items, Col. Kennedy stated; but if the war had lasted another six months QM would have been procuring at least a portion of all its wool items processed with a shrink-resistant treatment; and within a year such treatment would have been made a specification requirement for every wool item. "The savings to the Army already made on the completed part of the program have been more than enough to pay the cost of any research program on QM items which has been contemplated at any time during the war," Col. Kennedy announced. "The value of this research to the wool growers and the wool manufacturing industry of this country will also be widely recognized. It is regarded as the first step toward a fundamental restudy of military wool clothing. Further research will involve a complete restudy of fabric construction and garment design to take full advantage of the changes in physical properties of the wool and the fabrics resulting from this treatment."

WASHABLE WOOL FABRICS. A more detailed discussion of the subject was presented at the conference by Capt. Harry F. Clapham, QMC, in his paper entitled "Washable Woolens for the Army." He placed this subject high on the list for future study and development, listing the following problems to be solved: (1) developing suitable treatments for use on shirting flannel, underwear, blankets, and sweaters; (2) redesigning of all woolen uniform items as soon as feasible; (3) achieving color fastness of the dyestuffs, which will also be important in civilian washable woolens since colors that are entirely adequate for dry cleaning may be quite inadequate for repeated washing.

The first undertaking in the research program on shrink-resistant wool was for cushion-sole socks. The first step was the adoption of the Hypol process, a chlorination treatment, used by Sulloway Hosiery Mills, Franklin, N. H.; four hosiery mills used this process. Meantime, a pilot plant was set up at Nolde & Horst Co., Reading, Pa., working with the Textile Foundation.

It soon developed, Capt. Clapham said, that without added manpower and machinery, the Hypol process required too much processing time (2 to 2½ hr.). A controlled chlorination was developed which reduced the treating time by 50% and was simple enough for any mill to use. Hence, by the end of 1944, the Army was buying 7,000,000 prs. a month of fully washable socks. Specifications for future procurements have now been prepared requiring the treatment of all types of Army socks containing wool. Although the chlorination process has been used exclusively, Capt. Clapham said that other processes will be permitted "if and when they prove their superiority in either performance or cost."

As the research on washability of hosiery progressed, Capt. Clapham said, work was started on underwear, sweaters, flannel shirting, and blankets. When the war ended, the first test-production runs were being negotiated for flannel shirting, blankets, and underwear.

ABRASION RESISTANCE. On the subject of improving the abrasion resistance of textiles, Col. Kennedy made the significant statement that 10% longer wear in military equipage in 1944 would have saved the taxpayers of the country 240 million dollars. He added that a fundamental research program dealing with (1) the nature of abrasion and (2) the construction changes and finishing processes that would provide greater resistance can be justified many times over.

Capt. Stanley Backer, QMC, in a comprehensive statement on this subject, told the group that in spite of the fact that the Army had consistently bought better-quality goods than were sold to civilians, "replacement requirements of textiles stayed at disproportionately high levels."

Early in the war, consideration was given to improving the wearing qualities of the standard herringbone-twill fabric. The combat course at Camp Lee developed under the direction of Col. Max Wainer was used for controlled service tests. In fact, this course has been named by many research leaders as the outstanding development to date in service testing of clothing.

Progressive wear in the laboratory with intermediate wear scores was obtained by abrading the test fabrics on two standard machines, the Taber abrasion machine and the MIT abrasion machine. The nature of field-wear abrasion of textiles is quite different, however, from that produced by present methods in the laboratory.

A rotary impact tester has been developed and shows better agreement with combat-course results than have laboratory surface-abrasion tests, Captain Backer announced.

(*Continued on page 220*)

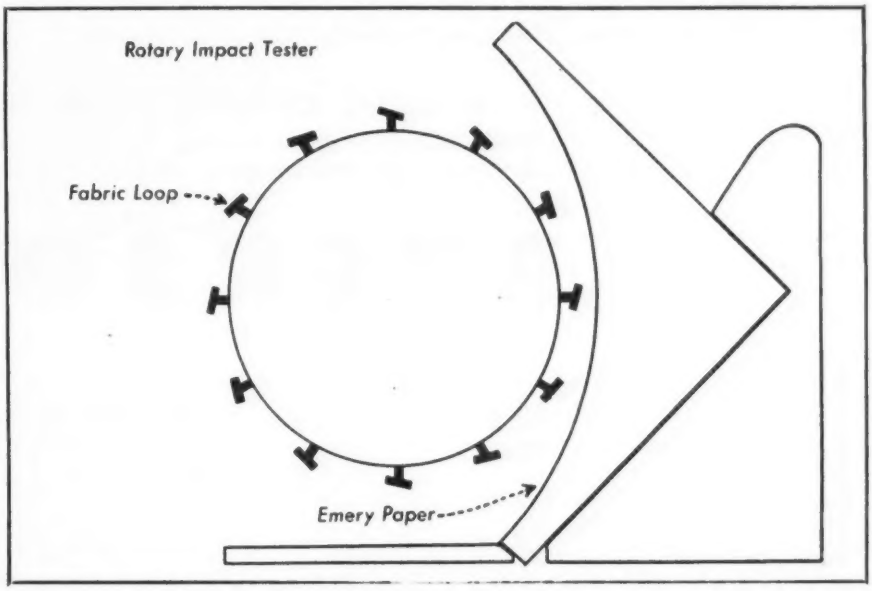
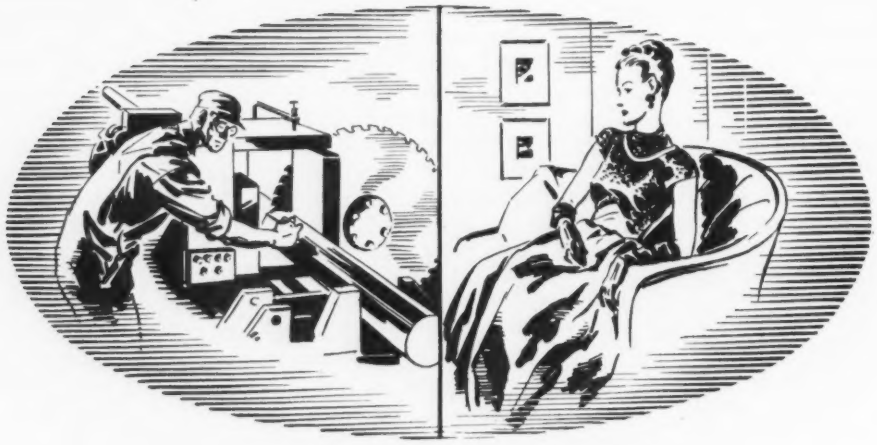


Diagram of abrasion tester which the Quartermaster Corps states correlates better with actual wear.



Steel

And My Lady's Gown

Steel is as vital to my lady's gown as the cloth from which it is cut. Before yarn can be spun, cloth woven and dyed, steel must be on the job in hundreds of essential applications. To keep it on the job, eleven Ryerson steel-service plants are ready day and night with large, diversified stocks of all the steels needed by the textile industry. Ready to cut, punch, rivet, or otherwise prepare the steel so that, in minimum time, replacements can be made—breakdowns repaired or avoided.

Under the pressure of current demands, size ranges cannot always be as complete, nor deliveries quite as fast as we would like them to be. However, Ryerson stocks are still the nation's largest; deliveries generally prompt. When a needed item just can't be had, Ryerson technical men are expert in recommending a useful alternative.

The know-how acquired in more than 100 years' service to the textile industry gives our organization a practical knowledge of the best types of steel for every kind of textile production and maintenance job. This background is yours for the asking as is a copy of our latest Stock List and Steel Data Book. Just get in touch with our nearest plant and rely on Ryerson for prompt deliveries of steel from stock.

JOSEPH T. RYERSON & SON, INC.

Steel-Service Plants: Chicago, Milwaukee, Detroit, St. Louis, Cincinnati, Cleveland, Pittsburgh, Philadelphia, Buffalo, New York, Boston.

RYERSON

RYERSON STEELS IN STOCK FOR TEXTILE INDUSTRY INCLUDE:

BARS, mild steel and alloy—Rounds, Squares, Flats—hot rolled and cold finished—shafting, etc.

SHEETS AND STRIP, hot rolled, cold finished, more than 17 different kinds including galvanized

PLATES, carbon and alloy, also Inland 4-Way Floor Plate

STRUCTURALS including I-Beams, Angles, Channels, Tees, Zees

TUBING, Seamless and Welded Mechanical, also Boiler Tubes

ALLEGHENY STAINLESS STEEL in all different types, shapes and a full range of sizes

ALLOY STEELS, Tool Steels and Special Steel, including Nitralloy (for extreme surface hardness)

REINFORCING BARS—Hi-Bond—for concrete work

BOLTS, NUTS, Rivets, Washers, etc.

BABBITT METAL AND RYERTEX NON-METALLIC BEARINGS

METAL WORKING MACHINERY & TOOLS

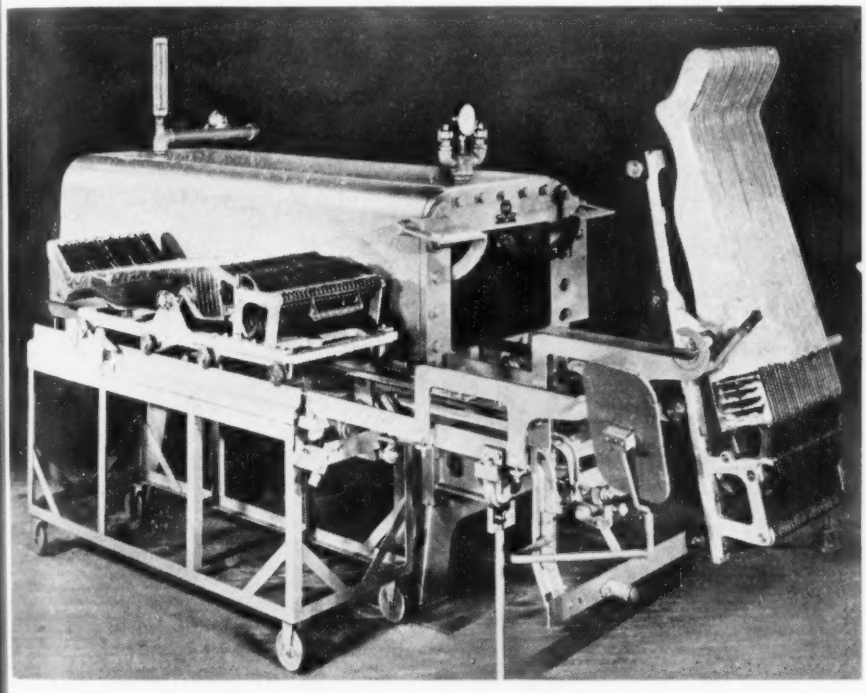
TEXTILE Equipment NEWS

Preboarding Machine Features New Controls

A machine for preboarding nylon hosiery which incorporates several new features has been announced by Paramount Textile Machinery Co., Chicago, Ill.

Among the new features pointed out are: hydraulic controls for opening and closing the door of the horizontal steaming chamber, automatic timing of the operating cycle, and changeable sets of forms.

The machine is known as Paramold 24, and is said to operate at an hourly capacity of 15 doz. pairs.

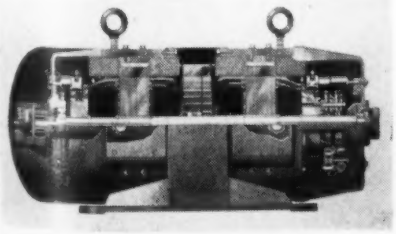


The machine is equipped with two sets of 24 forms. (Paramount)

Pump Impels Liquids At 60 to 480 Gal. per Min.

A low-capacity high-pressure pump for handling thin liquids up to 500 lb. pressure and viscous liquids up to 1000 lb. pressure is being built by the Bump Pump Co., La Crosse, Wis. A constant flow, regardless of pressure, is possible in any capacity from 60 gal. per hr. to 480 gal. per hr. by changing impellers.

The pump can be directly driven by a standard-speed motor, furnished for intake and discharge at the side or at the face plate, and mounted vertically or horizontally.

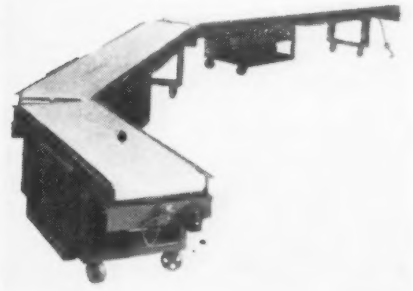


The pump may be driven by a motor operating at 1200 to 1800 r.p.m. (Bump Pump)

Belt Conveyor Uses Portable Units

A portable belt conveyor system built in detachable units, each of which is capable of carrying a distributed load of 400 lb., is being offered by Island Equipment Corp., New York, N. Y. The Power-Flex units are available in lengths of 3, 5, and 10 ft. and can be coupled together to make as long a system as needed. Belts may be had in widths of 12, 16, and 20 in.

Driving power for the belt is provided by a small motor mounted on a frame beneath the belt. Differential rolls dropped in place between the units guide the conveyed material from one unit to the next.



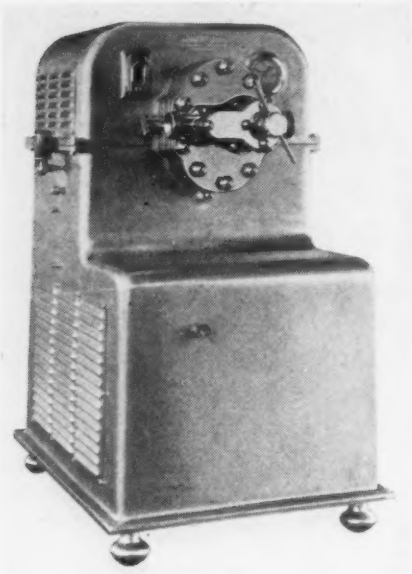
The units will convey material upgrade, downgrade, or around a curve. (Island)

Marco Equipment Grinds, Blends, Mixes

Designed for a large variety of mixing jobs, the Flow-Master Homogenizer-Kom-bi-nator, manufactured by the Marco Co., Inc., Wilmington, Del., is offered to the textile industry for grinding and mixing such materials as dyes, finishing materials, sizing compounds, and the like.

The homogenizer section differs radically from older homogenizing equipment. The Kom-bi-nator can grind solids to as small as one micron (0.001 mm.), and a positive-displacement pump (or pumps) feeds ingredients in the proper proportion. For certain types of work, the pump and homogenizer unit can be used without the Kom-bi-nator section. (The illustration shows a homogenizer without the Kom-bi-nator unit.)

The pump section maintains a steady, non-pulsating delivery due to its positive-displacement feature. It



The homogenizer may be used with the Kombi-nator section, or without it as above. (Marco)

maintains volumetric efficiency through an automatic wear control and can be disassembled for cleaning in a few minutes. The grinding and mixing units also are designed for easy cleaning.

The Marco Co. maintains a laboratory in Wilmington for investigating, without charge, mixing problems.

Sulzer Loom Operates At 230 to 240 P.P.M.

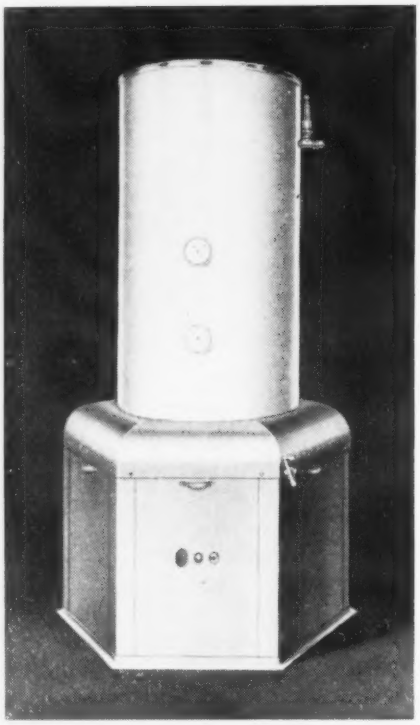
Since publication in the October TEXTILE WORLD (page 148) of a brief description of the new loom developed by Sulzer Bros., Winterthur, Switzerland, additional information has been received through reports of the American technicians who have been visiting Germany since V-E Day under the auspices of the Quartermaster Corps.

These reports verify that the shuttle measures about 2½ x 2 in. and consists of little more than a weighted clamp which catches a piece of filling fed over-end from a cone at one side of the loom and releases it at the opposite side. The metal track which guides the shuttle consists of vertical plates, with their planes parallel to the warp, spaced at short intervals along the lay and extending upward through the shed. The holes in the plates which permit passage of the shuttle are high enough to prevent contact between the lower shed and the shuttle; and they are apparently open at the front to allow the filling thread to be pushed into position for the beat-up. For this purpose the front edges of the plates may act as reed wires, it is believed.

There are actually some six shuttles, all of which travel in the same direction and return under the shed to their original picking position. Obviously pick-and-pick work is possible. It is reported that the shuttles are struck by a positively driven hammer and that the harnesses are positively driven by cams acting against rigid steel rods in an enclosed oil case. The filling is cut about ½ in. from the edge of the warp, and the loose end on each side is tucked back into the shed on the following pick by the action of special fingers. The type of selvage thus formed differs radically from the conventional.

Because the required movement of both harnesses and lay is small, the loom can be operated at unusually high speeds, it is reported. Speeds of 230 to 240 p.p.m. on widths up to 150 in. have been attained. Such widths may permit the weaving of several fabrics side by side. The power required is said to be only 1⅓ hp. even for a speed of 240 p.p.m.

Nylon Hose Preboarded at Rate of 432 per Hour



The vertical cylinder is raised and lowered automatically. (Proctor & Schwartz)

A preboarding machine for nylon hosiery with an operating capacity of 18 doz. pr. per hr. is being manufactured by Proctor & Schwartz, Inc., Philadelphia, Pa. Requiring only 10 sq. ft. of floor space, the machine is mechanically operated by hydraulic power acting upon a shaft to raise and lower the vertical steaming cylinder.

The machine is equipped with 30 boards, and preboarding is accomplished with a steam pressure of 15 to 30 lb. per sq. in. Because of the time element of operating the equipment, the company recommends that the machines be installed in pairs so that two operators working together will have a constant flow of work.

Screwdriver Handle Provides Kit For Tools

The "Unbrako" kit carries seven bits in its working handle. (Standard Pressed Steel)

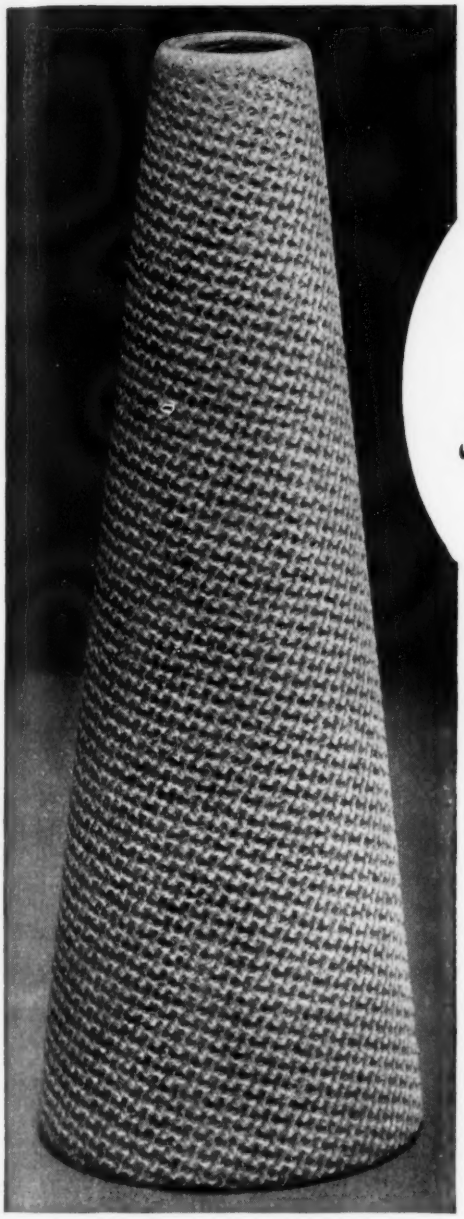
A tool resembling a screwdriver but having a hollow handle of transparent plastic to carry small tools has been announced by the Standard Pressed Steel Co., Jenkintown, Pa. Seven bits comprise the supply of tools carried in the kit.

The bits fit all socket-head, Phillips-head, or slotted screws. When in use, a bit is inserted in a chuck in the lower part of the handle and used in a vertical position; or it may be inserted in a socket at right angles to the handle and used in other positions.

Drying of Fabrics Controlled by Detector

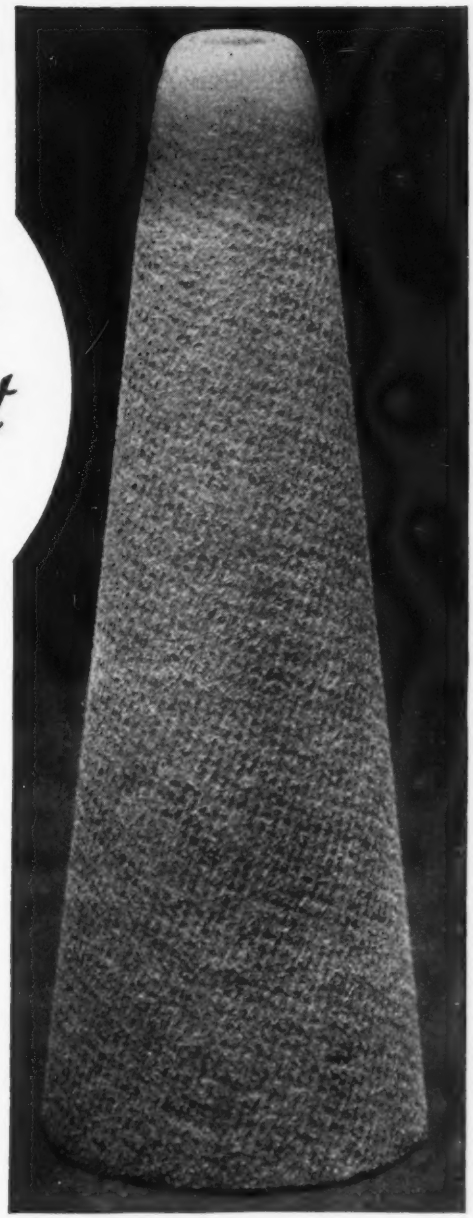
A device for controlling the speed of textile drying by means of a moisture detector acting upon a speed-control gear has been patented in Great Britain by John Dalgish & Sons, Glasgow, Scotland. Dual dials indicate the moisture content of the fabric and the speed at which the machine is operating.

Speeds up to 40 yd. per min. are



The Right Cone for the Right Purpose

12-E



12-E Straight Nose Regular Finish—low mark paper—regular finish—can be furnished with scores, dye or lacquer tip for identification. Used for thread package and by thread converters on coarser counts.

12-E Open Round Nose—lacquer tip—low mark paper given a Velvet Surface. Used for packaging thread and by thread converters for finer counts cotton. Not recommended for synthetic yarns.

The same cone 12-E shown above, given entirely different specifications, demonstrates the variations possible to meet the most detailed characteristics of a given yarn or thread. While a 12-E Cone can be recommended for packaging thread in general, the best results will be obtained by special specifications prescribed to fit various counts and use. The SONOCO Technical Service Department is experienced and equipped to work out these details based on your requirements.

SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

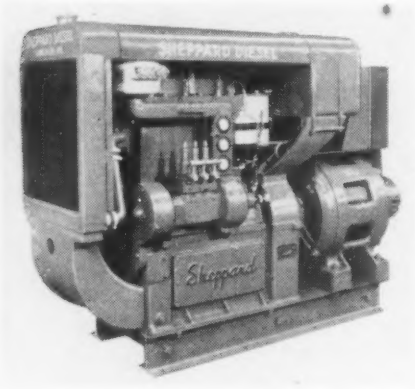
DEPENDABLE SOURCE OF SUPPLY

practical, but the normal recommendation is 36 yd. per min. This amounts to a production increase over hand control of almost 50%. More uniform drying is also said to be attained.

Generating Load Controlled Automatically

An automatic load-control for diesel-powered generating sets has been announced by the R. H. Sheppard Co., Hanover, Pa. The control acts upon the source of power to increase or decrease the generating capacity to meet variations in the load demand.

Available for single- or three-phase generators, the control can be connected to present leads and requires no special wiring. It is said that turning on any switch on the circuit causes the load control to start the generator; and when the switch is turned off, the control stops the power plant.



The automatic load control will be available only for generating sets made by the company. (Sheppard)

Robaczynski Will Build Two-Bar Tricot Machine

Robaczynski Machinery Corp., Brooklyn, will manufacture tricot machines in the near future, according to L. Robaczynski, president. The machine, which has been under development since before the war, will be manufactured in addition to the purl-stitch machine, again being built.

Both the entirely new tricot machine and the new production of purl-stitch machines will feature unusually heavy bases. The tricot machine, which will be 2-bar in 26 and 28 gages, is expected to achieve 500 courses per minute in a 180-in. width. It will accommodate a 21-in. beam and has novel cam, tension, and take-up arrangements.

A special showroom is being built in the Brooklyn plant.

Dyes & Chemicals — PRODUCTS & PROCESSES

Acetate Yellow

EASTMAN FAST YELLOW 4RLF; Tennessee Eastman Corp., Kingsport, Tenn.

This color is a new yellow in Eastman's LF (light-fast) series of acetate dyes. It produces bright, golden shades. In addition to its excellent light-fastness, it is also said to possess superior fastness to washing and has high resistance to sublimation and perspiration. It is level dyeing in a range from 160° to 190° F.; and, as it leaves cotton and viscose white, it can be used for cross-dyeing.

The manufacturer states that in addition to the foregoing properties, it possesses excellent resistance to gas-fading, thus recommending itself for the dyeing of draperies and similar fabrics which require extreme fastness in this respect.

Plasticizer, Solvent, Wetter

TETRAHYDROFURFURYL ALCOHOL; The Quaker Oats Co., 141 W. Jackson Blvd., Chicago, Ill.

This chemical has only recently been made available in commercial quantities. As a wetting agent it has been used alone or in combination with soap and synthetic detergents for the cleansing of cloth, raw wool, etc. It has been found, the company says, that tetrahydrofurfuryl alcohol will dissolve many complex organic substances on which other commonly used solvents have no effect, as well as many organic dyes which are insoluble in some of the better-known solvents. Its properties make it suitable as a plasticizer or dispersant for various synthetic coating materials, such as chlorinated rubber, vinyl resins, nitrocellulose, and others.

Synthetic Softener

AVITONE A; E. I. du Pont de Nemours & Co., Wilmington 98, Del.

Avitone A is a synthetic softening and lubricating agent said to be chemically stable and therefore resistant to oxidation, such as often causes rancidity and discoloration when natural fat softeners are used.

As a softening agent, it has proved useful in the finishing of cotton fabrics alone and in starch mixes.

Avitone A is also said to be a useful lubricant for oiling wool, and can be left on the fabric after weaving to assist in fulling, thus eliminating the strongly alkaline fulling mixes previously used. In this unified process, the lubricant made for carding and spinning is also the lubricant for fulling.

Avitone A reputedly can be readily scoured out of goods, either wool or cotton, without the addition of any other detergent.

New Softening Agents

SOFTSIZE #38 and SOFTSIZE #44; Swift & Co., Chicago, Ill.

These two compounds are sulphonated-fat derivatives, differing only in their appearances and melting points. Softsize #38 is a sulphonated fat with a slightly lower melting point than tallow, whereas Softsize #44 possesses a somewhat higher melting point than tallow. The lower-melting-point emulsion has a cream color as compared to the higher, which has a very light cream color. The fat content of both products is reported as 48 to 50% with a pH of 8.0 to 9.0. They are said to remain plastic and workable over a wide range of temperatures, with the stability of the product protected against the development of rancidity and oxidative deterioration by the use of an efficient antioxidant. A powerful moldicide is incorporated in both products and is said to reduce to a minimum the possibility of mildew.

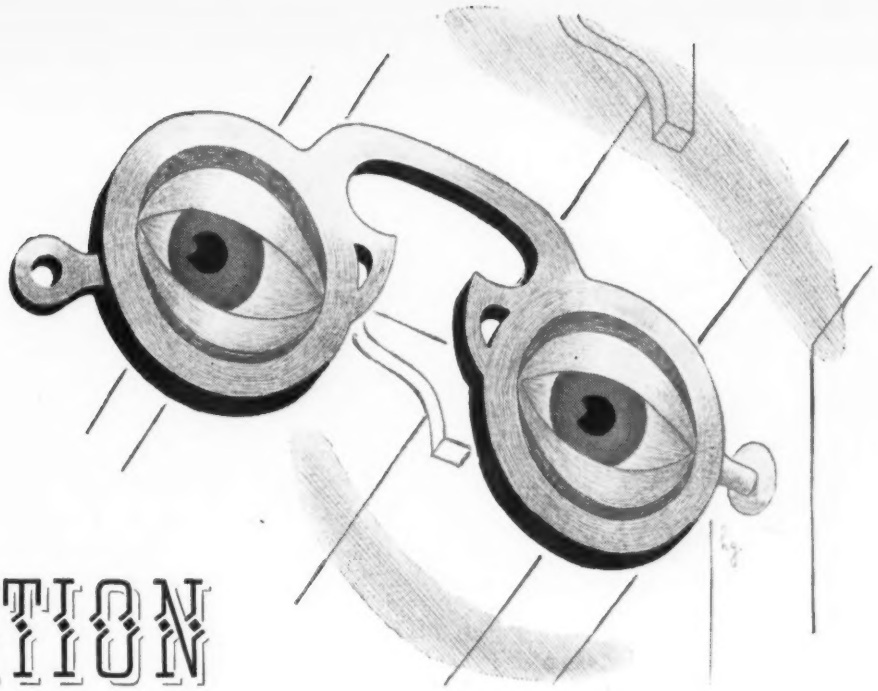
The two materials are easily and completely self-emulsifiable, forming very stable emulsions when diluted with water. They are offered to the textile industry as softening agents in finishing operations and as plasticizers in warp sizing.

Nylon Warp Size

COLLOID #287; Colloids, Inc., Newark, N. J.

Colloid #287 is a size made without gelatin, starch, or gum. It requires higher drying heats in slashing but will retain its solubility. (Nylon is reported not injured at the temperatures recommended.)

Recommended proportion is 75 lb.



RECOGNITION

Customers back through the centuries have been attracted by this unmistakable trademark. Countless opticians today still use this sign.

With industry's gradual release from pressing Government needs, whirlwind competition for lucrative consumer markets will begin. New products, and old products long absent from dealer's shelves, will need the help of identification which, like the opticians' sign, must immediately kindle the flame of recognition. Kaumagraph Dry Transfers*, Prestomarks, Embossed Seals, Lithography can give you attractive, economical identification — will provide the recognition so essential to sales.

Kaumagraph, under one roof, will design and produce the markings, packages, labels which prepare your products for quick acceptance in competitive markets. Why not send for a Kaumagraph Identification Man today?

*Reg. U. S. Pat. Off. "Kaumagraphs" are made only by Kaumagraph Company

KAUMAGRAPH* DRY TRANSFERS
by the automatic or manual touch of a hot iron, apply anything which may be lettered or drawn to a wide variety of surfaces.

Identification Headquarters since 1902

KAUMAGRAPH

KAUMAGRAPH COMPANY • WILMINGTON 99, DELAWARE • EMPIRE STATE BUILDING, NEW YORK 1, N. Y. • REPRESENTATIVES IN PRINCIPAL TEXTILE CENTERS OF THE WORLD.

to 40 gal. of solution to be dissolved at 180° to 190° F. but applied at 130° to 140° F. Cylinder temperatures at 240° F. are recommended for a speed of 12 to 15 yd. per min. on a 5-cylinder slasher and 15 to 18 yd. per min. on a 7-cylinder.

All-Purpose Clear

CLEAR 6214; Aridye Corp., Fairlawn, N. J.

An outstanding feature of Clear 6214 is that it permits plissé effects to be obtained with the regular line of Aridye pigment colors. The color value and fastness properties obtained are reported equal or superior to those with older types of clears. Among other advantages cited for Clear 6214 are the following: (1) excellent stability during storage and on running; (2) excellent flowing properties, permitting better control of viscosity than was possible heretofore; (3) good stability to hydrosulphite employed in discharge printing; (4) good stability to acid, hence giving excellent results on naphtholated grounds; and (5) colorless and transparent, providing the full brilliancy of pigment colors.

Nylon Knitting Solution

NYLTEX 172; Richmond Oil, Soap & Chemical Co., 1041-43 Frankford Ave., Philadelphia 25, Pa.

Nyltex 172 is used in a trough in water solution for the knitting of nylon hosiery. Its function is to keep needles clean, to prevent the nylon from sticking, to prevent the formation of size spots all over the machine, and to keep even tension during knitting.

About 3 to 5 oz. of Nyltex to each gallon of water is recommended. The solution can also be used to brush over the needles to prevent sticking.

Removes Heddle Rust

COLLOID #192; Colloids, Inc., Newark, N. J.

Colloid #192 is a clear, white solution, containing no caustics, acids, or products injurious to the skin or the metal on which it may be used. It is claimed to act solely on rust to remove it from the metal.

The product is diluted with water, 1 pt. in 2 gal. of water; and rusted heddles are soaked 5 hr. If the metal is to soak overnight, then a weaker solution is used, such as 1 pt. in 3 gal. water.

Colloid #192 will not act on grease or dirt and so the rusted metal parts to be treated must first be thoroughly free of grease or dirt. Consequently a wet-cleaning pre-treatment with Oakite or Colloids Heddle-Scour #34 is required before immersing the metal in rust remover.

Since derusted metal leaves a clean surface that is again subject to active rusting, a protective coating such as Reed-Cleaner #226 should be applied before the heddles or reeds are used again or stored.

TO KEEP 'EM RUNNING

Portable Fire Extinguishers Should Be Placed to Meet Need

The placing of portable fire extinguishers should be governed by the severity and frequency of fires occurring in a given area, according to information released by the Safety Research Institute, Inc., New York. They should be placed where they are readily available and access to them is not likely to be cut off by fire.

When used to provide general protection for an area containing normal fire hazards, extinguishers should be so placed that at least one large or two small ones can be reached by traveling no more than 50 ft. from any point in the area. Fewer extinguishers are required where the fire hazards are light, and more where they are severe.

When the extinguishers are used for safeguarding a specific fire hazard, they should be mounted near it; but they should not be on or so close to the hazard that they will be involved if it catches fire. If the hazard is located in a relatively small room, it is good practice to mount the extinguishers either just inside or outside doorways leading into the room. Operators can easily get to extinguishers so placed and have a safe line of retreat in case of necessity.

Extinguishers may be mounted on columns or walls, with hangers, brackets, or shelves as supports. The tops of easily handled extinguishers should not be more than 5 ft. from the floor. The tops of heavy extinguishers should not be more than 3½ ft. from the floor.

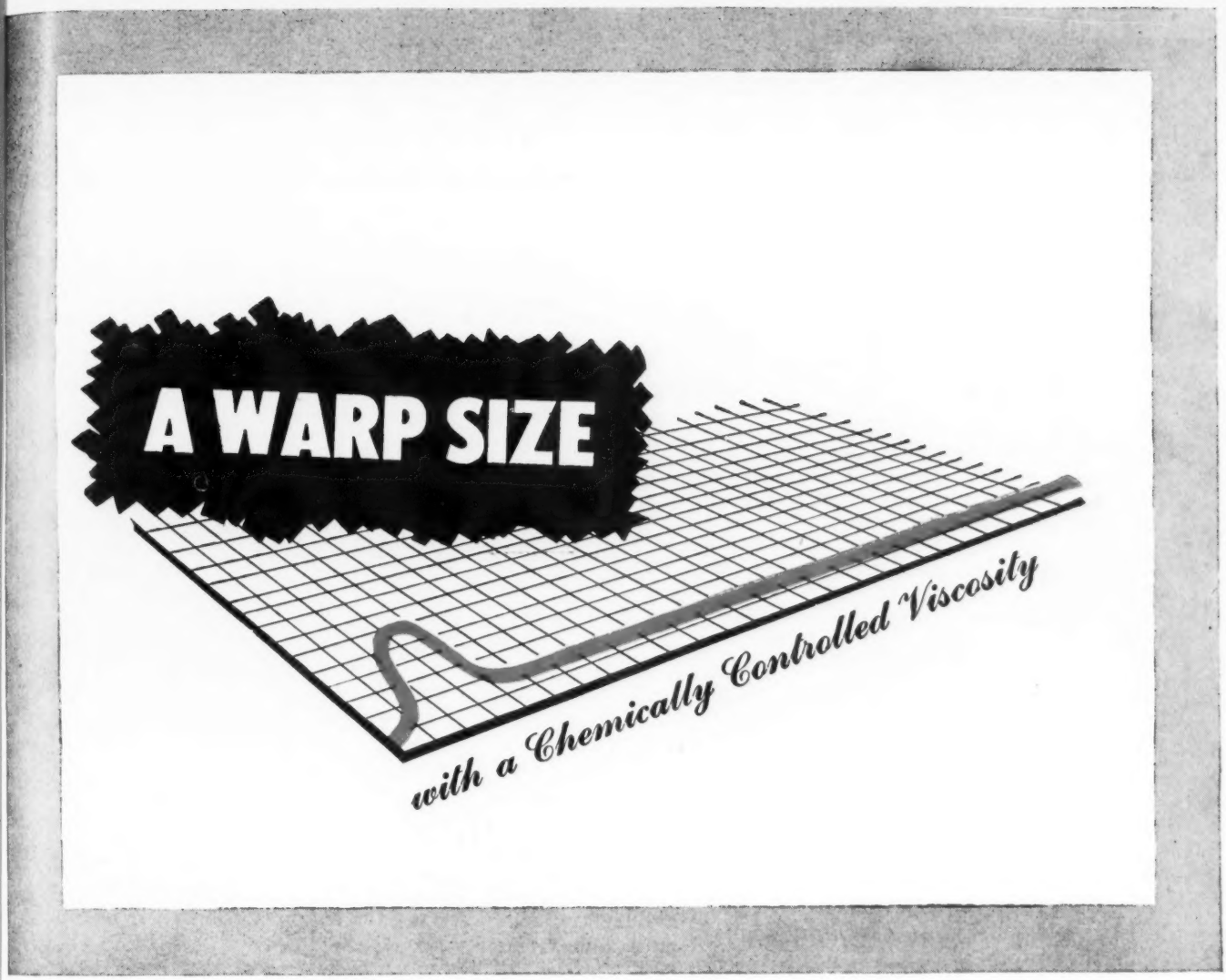
Extinguishers should be placed where they can be plainly seen. When they are wholly or partly concealed, their locations should be marked with conspicuous signs.

Nothing that might interfere with the accessibility of an extinguisher should be placed under or near it. All extinguisher locations should be checked at least once at day, and any obstructions found should be removed immediately.

Lubrication Rules Should Be Emphasized

Oilers should be cautioned frequently to observe a few basic rules which contribute toward an efficient lubricating job. These rules, published by Allis-Chalmers Mfg. Co. in its **Operation and Maintenance Review**, are as applicable to experienced oilers as to men newly assigned to the job.

1. Notice the color of the oil to be used. Milkiness or any other irregular color may indicate the presence of water.
2. Have your equipment ready at the machine before stopping it.
3. Use the right amount of oil. Overfilling is often as bad as underfilling.
4. If any oil is spilled, wipe it up or have the sweeper remove it.
5. Use coolants at room temperature. If a bearing is warm, never use a liquid artificially lowered in temperature.
6. Keep a record of dates and other important information relating to the lubrication of a machine.
7. Oil which contains foreign organic matter, such as food or tobacco, can cause skin infection. Report the presence of any foreign matter to your foreman.
8. Wipe grease-gun fittings before and after greasing. Dirt or grit forced into a bearing with the grease will damage the machine part.
9. Watch the reservoir to make sure the oil is circulating.
10. Report any machine or part which is requiring too much oil.
11. Make certain you know and use the proper oil.
12. Report any repair needed by a machine.



NALEX is a chemically refined warp sizing starch for fine cotton yarns and worsted yarns. Every batch will cook up to the same viscosity with only a 30 minute boil. And that viscosity will remain nearly constant in the size box and storage kettle — thereby insuring uniform sizing.

Viscosity largely controls the degree of warp size pick-up. Too low a viscosity means . . . insufficient size . . . inadequate film . . . excessive shedding, balling up and loom stoppage. Too high a viscosity means . . . excessive size . . . insufficient penetration . . . hard, brittle yarns lacking the flexibility needed for good weaving. Too varying a viscosity means . . . those soft spots so dreaded by all weaving superintendents.

— with NALEX, these operating difficulties are eliminated by a chemically controlled viscosity. The vagaries of Nature . . . caprices of weather and soil — *reflected in less fully processed warp sizes* — have been refined out of Nalex. As a result, it is uniform . . . batch to batch . . . hour to hour. Yarns sized with Nalex are strong, smooth and pliable . . . shed less . . . and produce grey cloth that has a pleasing appearance and hand.

NALEX is readily available at savings from $500 to $1,000 a carload over ordinary warp sizes. It uses 50% less softener for regular sizing; none for light sizing . . . needs no enzymes or chemicals to adjust its accurately controlled viscosity. Ask for a trial demonstration. A National technician can run off a few beams without upsetting production.

National STARCH PRODUCTS

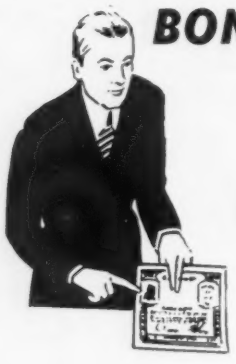
National also produces: FIBERJEL AC, a warp size for both filament and spun Acetate and Viscose Rayon yarns; HOOSIER Pearl Cornstarch; FLOJEL, uniform, thin boiling corn starches in all standard fluidities; FIBERTEX for textile finishing; and KOVAT, a cold water swelling gum for vat and discharge printing.

Offices: 270 Madison Avenue, New York 16; Boston, Philadelphia, Chicago, Indianapolis, San Francisco, and other principal cities. In Canada: Meredith, Simmons & Co., Ltd.; Toronto and Montreal.

STARCHES — AND SPECIALTIES WITH EASILY DEMONSTRATED SUPERIORITY

Kinks AND SHORT-CUTS

A $25 VICTORY BOND FOR YOUR IDEA



A $25 Victory Bond will be awarded each month for the most useful "kink" published in this department. This contest is open to all readers of TEXTILE WORLD, and there is no limit to the number of entries any one person may make.

Contributions must be received not later than the last day of the month to be eligible for the award for the second succeeding month. Items may pertain to production methods, mill engineering, safety, cutting costs, improving quality, speeding up production, in brief any little device, stunt, kink, or short-cut which you have tried out in your own mill and which you believe will be helpful to other mill men. Items should contain sufficient detail to permit other mill men to utilize the ideas in their own operations. Previously published material is not eligible for the award. Judges of the contest are the editors of TEXTILE WORLD.

TEXTILE WORLD shall have the right to publish any items submitted. Items which are accepted will be paid for at our regular rate for this type of matter with extra payment for appropriate sketches or photographs. The sketch you submit need not be a finished drawing.

In writing to this department, give your real name and address as evidence of good faith and to permit payment for items accepted. Please advise whether your name may be used with the kink.

Contributions should be addressed to: Technical Editor, TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y.

★ **VICTORY BOND PRIZE WINNER FOR NOVEMBER**

(September Contest)

Mill Devises Test For Humidifier Head

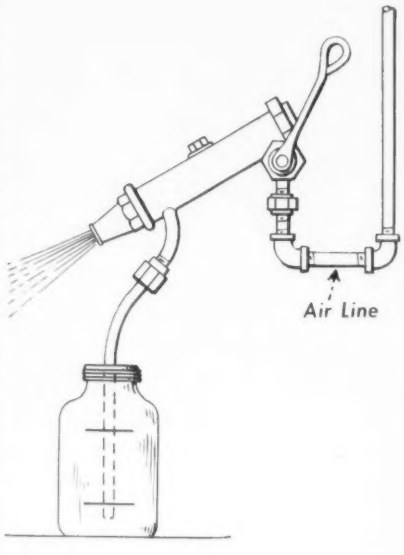
In our spinning and weaving departments, we found that we could not get enough humidity during hot summer days. A check showed that each atomizer head was putting out humidity; but in order to measure the evaporation per head, we devised an atomizer tester in a corner of the basement.

The compressed-air line was brought into the basement, and fittings were attached so that an atomizer could be screwed into the air line and a tube fastened to the water-line connection of the atomizer could extend to the bottom of a one-quart measuring beaker. The beaker was marked with a heavy line about 1 in. from the bottom, and water added until it reached this line. One pound of water was poured into the beaker, and a second line was made at the point the water reached.

When the air was turned on, it went through the atomizer, spraying water from the beaker as it did from the water line when in actual operation. Clocking the time required for the pound of water in the beaker to be sprayed gave us the operating output of the head.

A 10-lb. atomizer should use the pound of water in 6 min., a 12-lb. atomizer in 5 min., and a 15-lb. atomizer in 4 min.

The tests showed so much variation in the output of the heads that we found it necessary to overhaul and clean all of them. We now use this test on our humidifiers at regular intervals and also on new heads received from the manufacturer. *(K-391) C. K. Cobb, Canton, Ga.*



The output of the atomizer is tested by clocking the time required to spray 1 lb. of water.

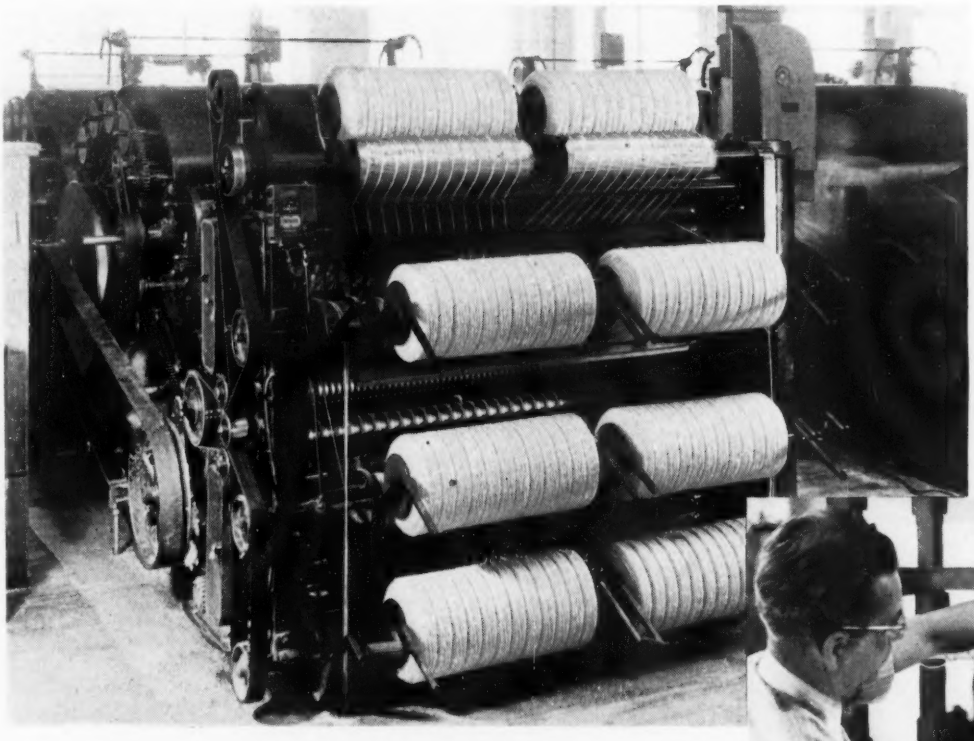
Loom Binder Tool Aids in Fastening Strap

To aid in fastening the leather facing to a shuttle-box binder so that the fit will be as tight as possible, I devised the binder tool shown in the sketch. The object was to make a tool which, after one end of the leather had been fastened, would hold the leather tight over most of the length of the binder while the other end of the strap was secured.

Using two pieces of flat steel 3½x1¼ x½ in., bore a ½-in. hole in each of the four ends and insert a bolt through each pair of holes. Weld the bolt heads to one piece of steel and allow the other piece to remain free to move up and down the bolts. On the inside of the former, also weld a flat piece of steel lengthwise across the tool. This is to act as a scotch for the under side of the binder to keep it from turning in the tool.

The top bar of the tool is removed,

"Practically Indestructible!"



. . . No Wonder Esmond Mills are 100% for this all-steel barrel with the "slasher groove"!

This outstanding Rhode Island firm has one plant 100% equipped with these Steel Barrel Jack Spools and expect another plant now 75% equipped to be 100% in the near future.

This Jack Spool is made up with an all-steel barrel incorporating a "slasher groove" the full length of the barrel and forming part of it. This groove not only serves as ready means for cutting off the yarn, but it also strengthens and stiffens the barrel longitudinally. It is no heavier than a similar size wooden barrel Spool and of course, cannot be damaged the way a wooden Spool is when the yarn is cut off.

Textile Mills, when questioned, give the following reasons for favoring these Slasher Groove Steel Barrel Jack Spools:

(1) They are practically indestructible.

(2) They feel the "slasher groove" is really essential.

(3) They find that when changing from one type of yarn to another—especially in different colors—the clean steel barrel is far superior, since the wooden barrel splinters and retains some portions of the yarn previously used.

(4) The use of them means real savings.

(5) They can be furnished both rust and "slip" proof if desired.

The Lestershire Spool & Mfg. Co., offers you these steel barrel Spools knowing their use will help Textile Plants. They are moderately priced, and offers many savings. *Write today for full data.*

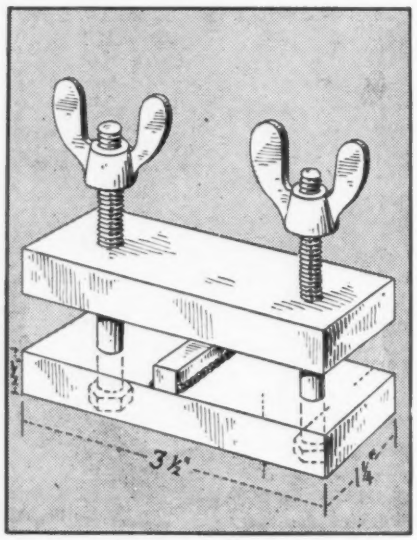
PRECISION SPECIAL PURPOSE BOBBINS

LESTERSHIRE SPOOL & MFG. CO.
JOHNSON CITY, NEW YORK

and the binder back placed on the bottom bar with one side against the scotch. The top bar is placed back over the bolts and wing nuts screwed on the bolts to force the top bar tightly against the face of the binder.

To use the tool, fasten one end of the leather facing to the binder. With the other end of the leather strap held securely in a vise, place the binder tool as near the vise end of the binder as possible and pull the leather tight by pulling away from the vise.

With the leather stretched taut, screw down on the wing nuts of the tool. The leather will be held tight from the tool to the fastened end. Remove the strap from the vise and place the binder itself in it. The short length of leather from the tool to the unfastened end can be pulled tight by hand and fastened. *(K-284) E. Bentley, Canada.*



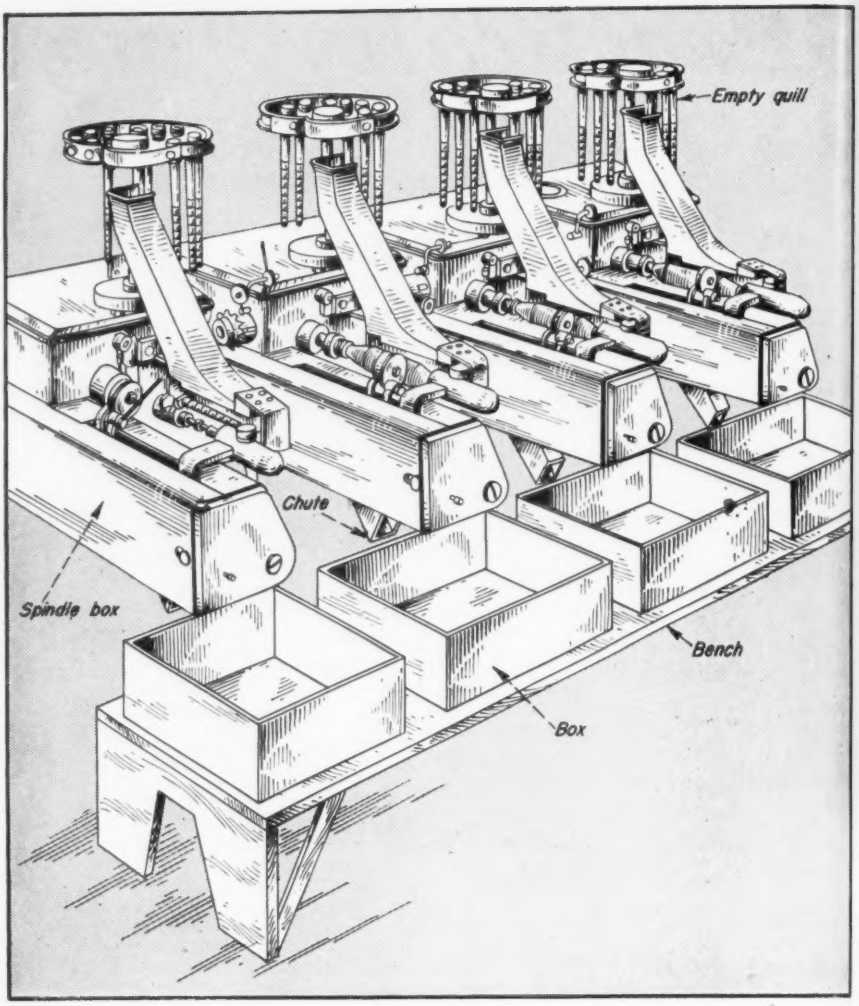
The binder is placed between the bars, and the top bar is forced downward against the binder facing by the wing nuts.

Cut Filling at Winder Reduced by Use of Bench

Frequently, a bobbin of yarn is cut or damaged when struck by the butt rings of a full bobbin dropped by an automatic quiller into a can or box. This is particularly true of tender yarns, and even a strong yarn may be sufficiently damaged to cause a broken pick on the loom.

The trouble is caused primarily by the length of the drop from the delivery chute of the machine to the can or box. The damage can be lessened by decreasing the drop.

A bench to hold the receiving boxes, thus raising them and cutting down the length of the drop, is shown in the sketch. An ordinary wooden bench will suit the purpose. Since beginning the use of such a bench, damaged bobbins of yarn have been materially reduced in the mill at which the writer works. *(K-388)*



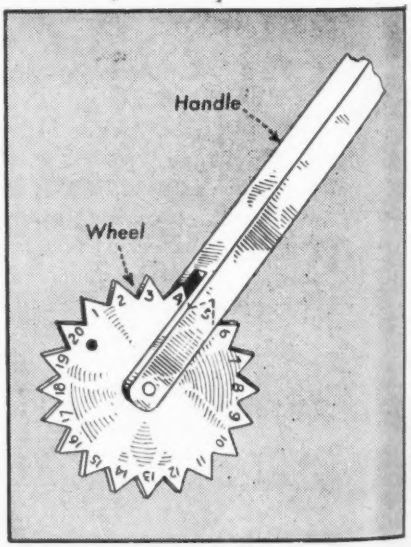
The bench reduces the drop of the full bobbins approximately one-half and reduces damage to delicate yarn.

Window Condensation Stopped for Paint Job

Painting the windows of our weave room, where an 80% r.h. at 80° F. is maintained, gave us trouble for a number of years. Because of the condensation at the windows, the woodwork was usually so wet that paint would not stick. We finally hit upon the following method:

Wooden frames were made to fit the over-all outside dimensions of the window, and this frame was covered with ¼-in. Celotex. The insulating

Link Counter Aids Hosiery Pattern Builder



When changing the pattern on a full-fashioned hosiery machine, the pattern builder will find the link counter sketched above of benefit. Place the No. 1 tooth of the wheel in the first link of the chain and roll the wheel along the chain. One revolution of the wheel covers 20 links. (K-400)

"G-E Fluorescent Lighting has paid for itself with improved production"

Says Textile Mill Superintendent

INSTALLING G-E Fluorescent Lamps in the weave room has resulted in a big pick-up in production in this mill. The biggest saving is a great reduction in the amount of spoiled work or reject material. In fact, this textile company feels that G-E Fluorescent lighting has paid for itself more than once in the amount of poor work it has saved. And they are planning to install G-E Fluorescent Lamps throughout the entire mill as soon as possible.

Such praise is typical of the high regard textile mill executives have for G-E Fluorescent Lamps.

Why not let a General Electric Fluorescent installation do a similar job for you?

Every textile mill has many critical seeing tasks . . . jobs that require alert eyes and quick, sure seeing at all times . . . jobs that get done quicker, better, and at lower unit cost with cool, indoor "daylight" from G-E Fluorescent Lamps. Let G-E Lighting Engineers design a G-E Fluorescent installation for *your* plant that will give you the lighting you need for efficient production and lower costs. Consult your G-E Lamp Supplier or the G-E Lamp District Office nearest your plant.

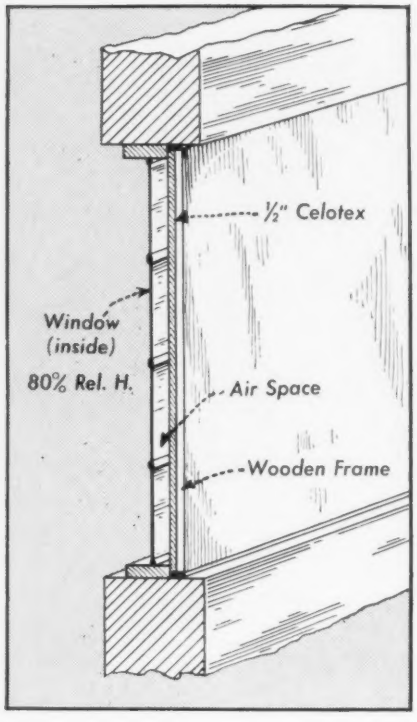
G-E LAMPS

GENERAL ELECTRIC

Research is Always at Work to Improve G-E Lamps and Make Them **STAY BRIGHTER LONGER !**

KINKS & SHORT CUTS

(Continued from page 168)



With an inside relative humidity of 80% at 80° F., an air-tight covering of Celotex will prevent condensation at the window down to an outside temperature of about 50° F.

properties of Celotex were sufficient to allow the woodwork of the window to dry out in two days to the point that it would hold paint.

We removed all the old paint, replaced unsound woodwork, and applied an aluminum primer containing an asphalt base. The Celotex was allowed to remain over the window until the final coat of paint was dry. *(K-402)*

Doors Numbered For Identification

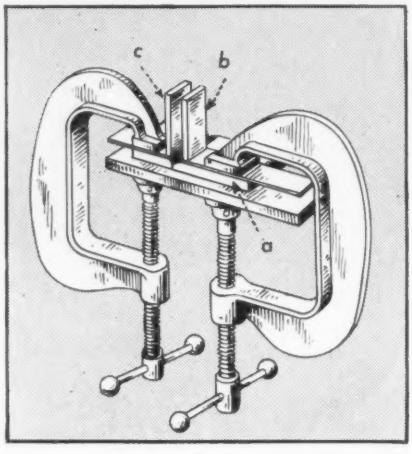
Maintenance men will find that assigning doors an identifying number will aid in keeping a record of locks and keys and in writing repair requisitions, etc. In a large plant, where the chief maintenance man may be responsible for 100 or more doors, such a system of identification is almost indispensable. *(K-394)*

Angle Box Strapping Used as Welding Guard

When welding small parts, such as the flat cam a shown in the sketch, it is often difficult to avoid welding the machine part to the jaws of the holding clamps. We solved the problem by using a guard over the jaws.

Two short lengths of steel box strapping are bent in an *L* shape, *b* and *c* in the sketch, and placed on the machine part with one side of the angle pointing upward. These vertical sides should be adjacent to each other, and the jaws of the clamps should be placed on the horizontal sides of the angles.

The point to be welded should be aligned between the vertical sides, which then act as guards to prevent the sidewise flow of the welding metal reaching the clamp jaws. When the weld is completed, the welding metal can be twisted off the box strapping with pliers or ground off with an emery wheel. *(K-396)*



The vertical sides of the strapping protect the clamping jaws from the welding metal.

Heel-Spring Strap Fastened With Band

In many mills, the leather strap used for connecting the heel spring with the picker stick is fastened to the stick by a screw. Often the screw works loose; and when this happens, it is only a short time until the strap breaks. In addition, the protruding screw head presents a minor accident hazard to the weaver.

The heel-strap fastener shown in the sketch eliminates the screw and increases the operating life of the strap.

Cut a notch about $\frac{1}{16}$x$\frac{1}{16}$ in. in three sides of the picker stick approximately ½ in. from the bottom end. Bend a length of discarded harness index chain to form a rectangle 1¾x3¼ in. One end of this rectangle should fit into the notches in the heel of the picker stick.

An end of the adjustable leather strap is looped around the other end of the rectangle, doubled back, and fastened in a double layer with a rivet. *(K-403)* *William H. Kirby, Shirley, Mass.*

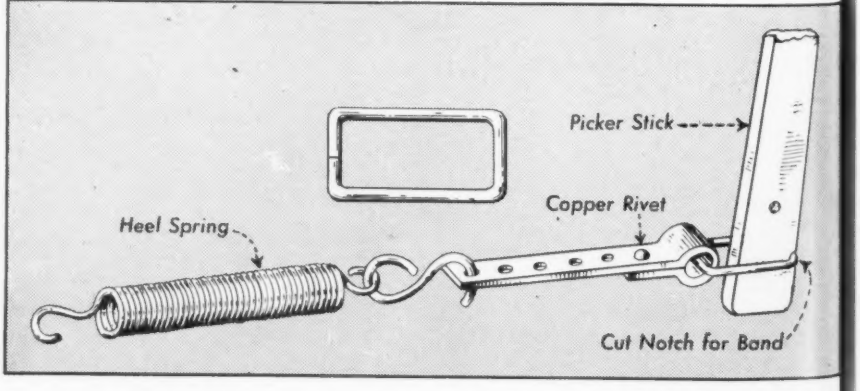
Water Consumption Controlled by Charts

One of the profit "leaks" we combat at our mill is the loss of water. Although the saving we effect is small over a period of time it has proved worth while.

Water meters are read weekly; and by comparing the week's consumption with previous amounts used, we are able to spot any unusual increase and investigate the cause. By charting the weekly amounts, we can tell at a glance if there are any definite long-term trends which might influence the mill's expenditure for water. *(K-393)*

Sorting Tray Aids Separation of Quills

The bobbin strippers on automatic looms often leave waste on the filling quills, and these must be taken out of the clean quills and stripped by the bobbin-stripping machine or by hand. Since we use a large truck for taking up quills, separating those with



By using a steel band for connecting the spring to the picker stick, the heel-spring strap lasted much longer.

A TRIUMPH OF SONNEBORN CHEMICAL RESEARCH!

... Fybrol 1115 ....

A NEW SELF-SCOURING WOOL FIBRE LUBRICANT WITH REMARKABLE WETTING AND DETERGENT PROPERTIES

- ☆ A SULFONATED HYDROCARBON
- ☆ SOLUBLE IN HOT WATER
- ☆ UNIFORM PENETRATION OF FIBRE
- ☆ SOAPLESS FULLING
- ☆ SELF-SCOURING

FREE TECHNICAL ASSISTANCE

Sonneborn offers you the services of its technical experts who will work with you in your mill, at no cost or obligation, to help establish the proper method of applying Fybrol 1115 for best results.

Here's the Complete Story. Send for Your Copy of This New Technical Bulletin. Write Dept. W 11

Textile Chemicals Division
L. SONNEBORN SONS, INC.
88 Lexington Avenue
New York 16, N. Y.

Plant and Laboratories: Nutley, New Jersey
Refineries: Petrolia and Franklin, Pa.

WORSTED MILLS, ATTENTION!

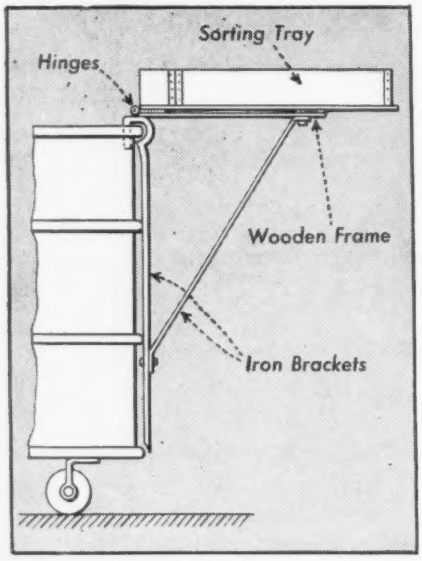
Write or wire today for details on Fybrol 1115L, the remarkable new *Self-Scouring* Worsted Processing Oil. Same exclusive features and advantages as the wool oil announced above.

Woolen and Worsted Oils • Petroleum Sulfonate Bases • Detergents and Dyeing Oils • Penetrants • Delustering Specialties • Warp Dressings • Finishing Sizes and Softeners • Water Repellents • Sulfonated Oils

bunches on them presented a problem. The floormen had to take the quills from the can by hand or reach over the high sides of the boxes.

To speed up this job, we built a quill-sorting tray to be attached with hinges to the side of the truck. The tray was big enough to hold all the quills from one loom can.

The floorman poured a can of quills into the tray and, working at a comfortable height, sorted out the unclean quills. These were dropped into a can which he carried along with the truck. When all of the quills with waste on them were removed, he emptied the tray by swinging it upward on the hinges, allowing the clean quills to pour into the truck. *(K-401)*

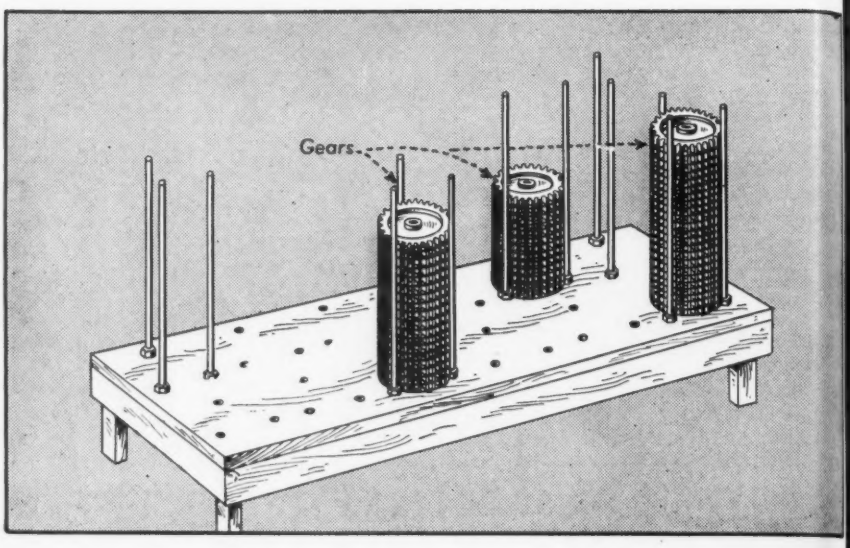


The sorting tray rests on a wooden frame supported by the side of the truck and iron brackets.

Storage Table Is Convenient for Gears

In many mills, various change gears—draft, twist, pick, etc.—are not kept in an orderly manner when not in use. We have found a gear table, similar to the one shown in the sketch, to be of value in storing extra gears and wheels.

The table can be made in any length and width desired; but in order to discourage its use for other purposes, it should be made no larger than is needed for the supply of extra gears. The gears and wheels are placed in columns, a separate one for each kind and each size of gear.



Each kind and size of gear should be stored in a separate column.

To hold the gears in place, bore three holes equidistant upon a circle around them and fasten small steel rods upright in the table. *(K-405) Jerry Smith, Bedford, Va.*

Drain Pipe Simplifies Removal of Excess Oil

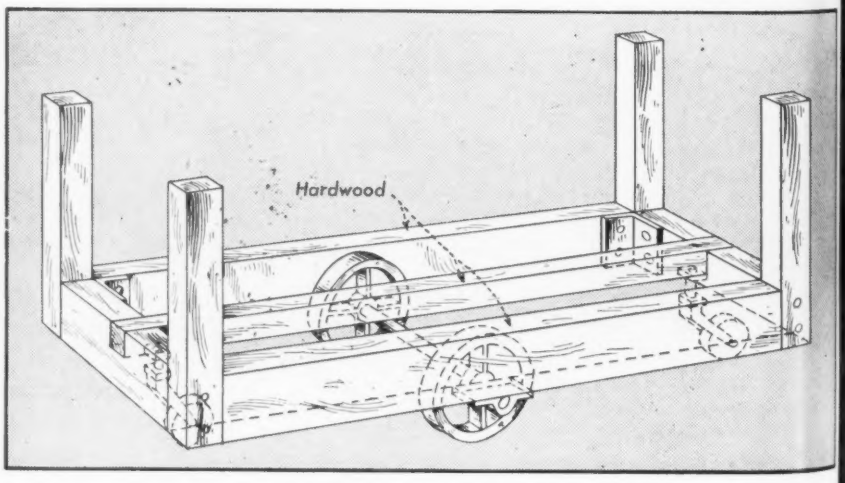
Removing oil from the spindle-drive box of our winders required two men to take the boxes off the machine, drain, and replace them. In addition to necessitating a considerable amount of work, this method caused a needless loss of production.

We solved the problem by making a hole in the bottom of the box and attaching one end of a drain pipe to it. A few inches below the box, we placed an elbow in the drain pipe and extended the pipe to the end of the frame. By running the drain pipes of adjacent frames in opposite directions, two frames could be drained at one time into the same bucket. Only one man is now required to do the job, and there is no lost production. *(K-399) Tollie Suddeth, Greenville, S. C.*

Cloth-Truck Floor Replaced by Rails

In spite of the efforts made by supervisors to prevent cloth trucks from being used by maintenance men, our cloth doffers often found a truck oily and splintered after being used for hauling motors, machine parts, lumber, etc. We solved the problem by removing the floors of the trucks.

Three heavy hardwood rails were bolted to the chassis of the truck, as shown in the sketch. Rolls of cloth could be placed across the rails, but the trucks lost much of their convenience for other purposes. *(K-392)*



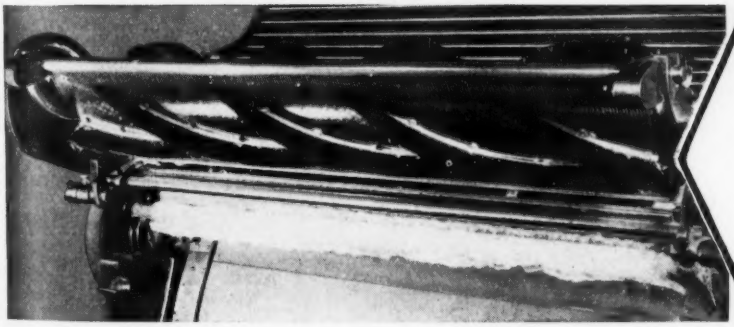
Three rails were substituted for the solid floor of the cloth trucks.

"FULLERGRIPT" is the Fuller Brush Company's patented method of gripping brush materials in a rust-resisting metal backing. The machine-controlled placing of materials in the metal backing results in a uniformly solid brush face, which can be fastened onto metal cores, or arbors. The density of the brush and the durability of the holding method means long life, better performance and serviceability.

All types of Brushes, Machine or Hand, for Textile and Finishing Mills.

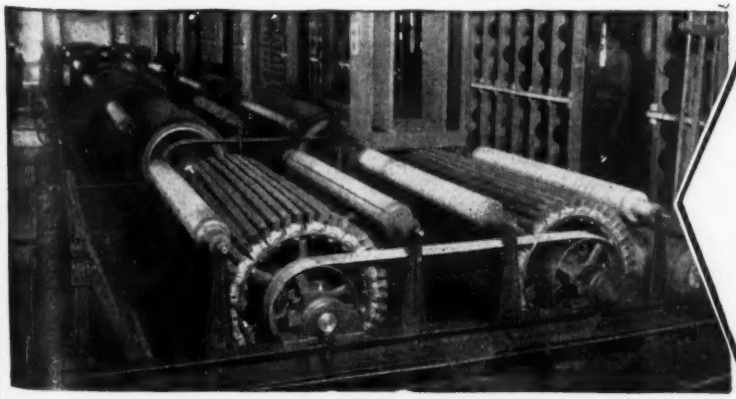
WORSTED-CARD BRUSHES

FULLERGRIPT Worsted Card Brushes, because of the densely packed brush materials, push the wool—*all* of the wool—down into the pins of the Morel clothing, leaving the burrs on top of the pins, free of fiber, ready for easy removal. (See cut.) Fullergript cylindrical brushes are proving helpful in three ways on worsted cards: As *feed roll brushes* to start the wool properly in the teeth of the first lickering; as *Morel brushes* to disentangle the burrs from the wool; as *transfer brushes* to carry the wool to the Morel roll and disentangle the burrs at the same time.



COTTON-FLAT CARD-BRUSHES

RIGID, metal-backed brush strips, pre-formed to the correct degree of spiral, can be easily attached to your present wood cores. The density of the brush with no gaps, prevents the accumulation of lint or lumps on your cards, and the stripper is cleaned more thoroughly. This means better carding.



THREAD DRESSERS

DISCARD wood lags with their variation in weight, warping, splitting, and falling tufts. Use Fullergript for better ventilation and increased production. Their are no gaps or tufts in Fullergript to allow threads to ride on the core. These brush strips are set in pairs equally spaced around the periphery of the spiders, and are easy to install. Their production life is longer because of the dense, massed bristle filling.

THE FULLER BRUSH COMPANY

INDUSTRIAL DIVISION DEPT. 8C

3594 MAIN STREET HARTFORD, CONN.

THIS IS NO. 54 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

BREAKAGE LEVER BALANCE (No. 50 Machine)

It is sometimes necessary — particularly when winding light or fragile yarns which require a minimum tension — to obtain a very delicate and positive action on the Stopping Lever.

The Breakage Lever Balance (50-2934) accomplishes this purpose by accurately and sensitively balancing the Breakage Lever Assembly in a running position, eliminating any oscillation which might release tension and cause the spindle to stop.

The Stopping Lever Assembly can be so counterweighted that its weight does not appreciably impose any load or increase the tension even on the finest deniers. When the end breaks, the Balance moves in the direction that will insure proper contact of the Stopping Lever with the Stopping Wheel, causing the Spindle to stop.

The Balance is an arc-shaped flat metal piece at the upper end of which a weight is fixed. It is attached directly to the Stopping Lever Hub by two screws. A radial slot permits a range of adjustment.

Two styles are made. One, having a single slot, is used with Stopping Lever Hubs in which there is one hole for the Breakage Lever. The other has two slots and is used with the Hub that has two holes for two different positions of the Breakage Lever.

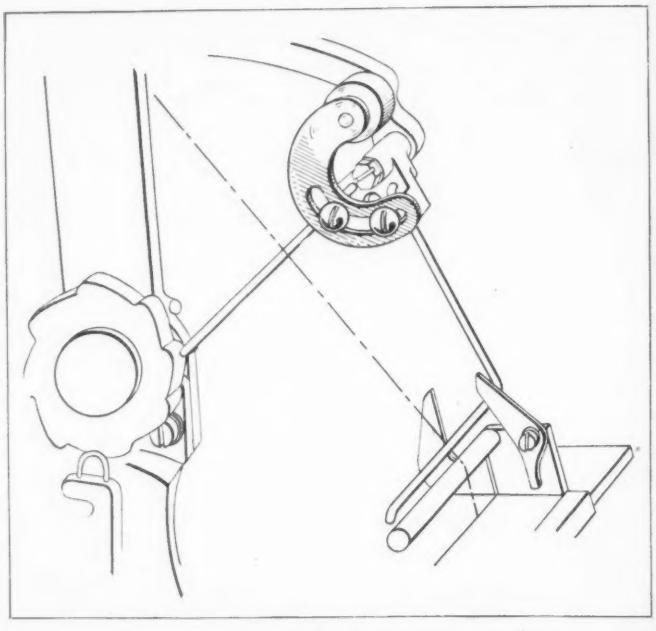


Fig. 1

PREVENTING SCRAMBLED YARN (Roto-Coner*)

Scrambled yarn on the face of a cone or tube can generally be attributed to insufficient frictional contact between the cone and the Rotary Traverse.

The Spindle Holder Bearing may be set so tightly that the package drops too slowly and does not make an immediate firm contact with the Traverse. The Bearing should be adjusted to a point where the package will drop freely and begin to turn immediately on contact.

The operator can make sure winding is started correctly by observing the practice illustrated here. Pass the yarn through the Tension with the right hand, the hand continuing to the package and picking up the end on the package. Bring up the left hand with the Knotter, tie the yarn, give the package a start with the left hand and support the yarn with the right hand just clear of the traverse as the left hand drops to the Starting Handle, releasing the yarn as the package starts to revolve. The yarn will pass into a groove and be carried the full length of the Traverse without scrambling or short-traversing.

Waste yarn wrapped around the spindle will, of course, prevent the spindle from turning freely, and may invite scrambled yarn. Guards are provided to reduce this hazard, but it is always well to be sure that no such condition exists. Inspecting the spindles for wrapped yarn takes very little time and will help increase production and quality.

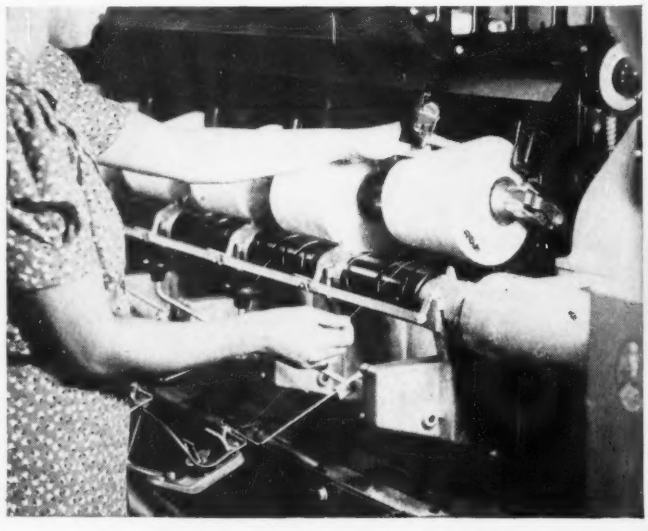


Fig. 2

*Reg. U. S. Pat. Off.

See our Catalog in TEXTILE WORLD YEARBOOK
23.5.12

"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

LETTERS to Pete & Bill, discussing material in this department, are paid for when published. Suggestions for the Pete & Bill dialogue will also be paid for if used. If these pages interest you, contribute something to interest others. Address PETE & BILL, Textile World, 330 West 42nd St., New York 18, N. Y.

Pete & Bill

Training for a Mill's Veterans

Should a mill retrain its returning veterans, or let them make their own individual adjustments?

PETE, I HEAR YOU'RE GOING TO SUPERVISE A TRAINING COURSE FOR OUR OWN RETURNING VETERANS.
THAT'S RIGHT, BILL I FIGURE BOTH THE BOYS AND THE PLANT WILL BENEFIT BY IT.
1
I CAN'T AGREE. BET OUR FORMER EMPLOYEES WILL RESENT THE INFERENCE THAT THEY DON'T "KNOW THE ROPES" AROUND HERE.
THAT'S THE POINT, BILL. THEY ARE OUT OF TOUCH. A LOT OF WHAT IS NOW ROUTINE TO US WILL BE NEW TO THEM, AND MY PROGRAM IS INTENDED TO MAKE THEIR TRANSITION FROM THE SERVICES TO INDUSTRIAL LIFE EASIER.
2
PETE, DO YOU REALLY THINK THE CHANGES WE'VE MADE AROUND HERE WARRANT SUCH A FUSS?
I CERTAINLY DO. WE GOT THEM GRADUALLY, BUT IT TAKES TIME TO GET ACQUAINTED WITH OUR STEPPED-UP PRODUCTION SCHEDULE, THE NEW PIECE-WORK SCALE, THE EMPLOYEE SUGGESTION PLAN.
3
EVEN IF I COULD SEE YOUR IDEA FOR G.I'S AND I CAN'T-WHERE DOES MANAGEMENT GET ANYTHING OUT OF IT?
WELL, BILL, I FIGURE MANAGEMENT WILL DEFINITELY BENEFIT, FOR THE G.I. HAPPILY ADJUSTED TO HIS JOB IS JUST NATURALLY GOING TO BE A MORE PRODUCTIVE WORKER. MR. READER-LET'S HAVE YOUR VIEW.
AM I RIGHT?
4

Letters From Readers

Depends on Circumstances

"The Wandering Employee"
(Pete & Bill, Oct. 1945)

Dear Pete & Bill:

As regards employees going to departments other than their own, it is my opinion that it all depends on circumstances. The employee should stay in his own department unless he has reason to go in another. If he is out wandering around other departments he is neglecting his own work. This is where the judgment of the overseer comes in. If the overseer has the proper experience, his judgment will tell him whether or not the excuse given him by the employee from an outside department is reasonable, or whether the employee is trying to deceive him. (PB 901)

Pete Can't Authorize His Help to Enter Bill's Dept.

"The Wandering Employee"
(Pete & Bill, Oct. 1945)

Dear Pete & Bill:

I agree with Bill; I can't see that Pete has any authority to give a person in his department the privilege to go to another department and hinder production. If Pete wants to be a good fellow, have good relations between himself and his employees, all well and good. But he should have called Bill up and received permission for his girl to enter Bill's department to talk to her sister.

The great trouble with people in the mills in the last 20 years is that they find it impossible to keep out of the other fellow's business. Now, Pete, what authority would you have if you wanted steam turned off in your department to send a person to the boiler room to shut off the steam? There are a good many men like you, Pete, who do not consider the other fellow at all and when you find out your idea has him wrong, you come out with a remark like "Oh, you're off the track," and then walk away leaving

him holding the bag. Pete, you have the authority to let your help leave your department, but not to enter the other fellow's and hinder production. (PB 902)

Mill Research Is Valuable

"Production or Research"
(Pete & Bill, Sept. 1945)

Dear Pete & Bill:

The very fact that a man is a supervisor in a mill implies that he has the ability and capacity for such a high-ranking job. With this view in mind, it stands to reason that any decisions which he might make would have substantiation. Therefore, should he elect to indulge in a bit of research it would be with a definite objective in mind for improving production or cutting costs.

It is true that production schedules have to be met; but without experimentation, management could not ascertain whether or not a speeded-up process could be developed. It, therefore, falls upon the shoulders of the supervisor to determine the maximum yield in a definite period.

Research in manufacture is an absolute "must". The fact that a machine or two taken out of production for purposes of experimentation costs the mill a few extra dollars will be more than offset by the savings in the increased efficiency and yield developed by reason of such undertaking.

A man's initiative plays an important part in a mill's success. It therefore behooves management to select its supervisors from the ranks of those interested in furthering progress for the mill. Research in manufacturing would be the objective of those selected. (PB 905)

Practical Man Best in Vocational Education

"Overseer vs. Outsider as Teacher"
(Pete & Bill, Mar. 1945)

Dear Pete & Bill:

Since Bill claims he likes teaching and, in addition, has the practical experience, he's the logical man for a vocational class instructor.

So often the instructor in such courses is found to be excellent from the academic standpoint, but questions from the class too often exhibit that his ideas are highly theoretical.

Books will tell you it can be done, but the instructor who can go farther and actually demonstrate *how* he did it, supplementing his demonstration with the little pointers gained by actual experience, gives his class an invaluable working knowledge. (PB 605)

Books of Interest

The Twentieth Century Cotton Mill Worker—History of Labor Relations

THE COTTON MILL WORKER, by Herbert J. Lahne; Farrar & Rinehart, Inc., 232 Madison Ave., New York; 293 pages; $3.00.

In this book which tells the story of the cotton mill worker of today and his struggle to build a stable union structure, Mr. Lahne has exhibited an unusual amount of research and a very keen insight into many of the labor problems of the industry which do not appear on the surface. Every textile mill executive interested in labor relations and in the present trends in unionism in the textile industry, especially in the South, should read this book. Such subjects as mill villages, religion, education and democracy in the village, the New England immigrant and the Southern native, women and children in the mill, family income, and earnings are covered in the analysis. Also, the United Textile Workers and rival unions, the general strike of 1934, the C.I.O., unionism since the C.I.O., and union problems and employer tactics are other items considered in detail.

Equipment Design for Plant Engineer

PROCESS EQUIPMENT DESIGN, by Herman C. Hesse and J. Henry Rushton; D. Van Nostrand Co., 250 Fourth Ave., New York; 565 pages; $7.50.

Intended to be of assistance to the engineer who is called on to design and construct special equipment for new or improved processes and to handle the normal repairs and additions that are made about mills, this book will refresh his mind as to many of the basic principles that must be considered with such work. The first part of the book is devoted to a review of materials of construction and the strength of materials. Some of the other matters covered are: riveted pressure vessels, welded pressure vessels, trusses and truss adaption, piping, non-ferrous construction, concrete construction, wood and other non-metallic construction, drives, and handling equipment and mechanical frames.

Textbook on Management

INDUSTRIAL ORGANIZATION AND MANAGEMENT, by Bethel, Atwater, Smith and Stackman; McGraw-Hill Book Co., 330 West 42nd St., New York 18; $4.50.

Written as a basic text on organization and management, this book will prove to be a worthwhile addition to the library of any textile mill executive. The book is divided into four sections. The first covers the economic and social foundation of American industry. The second covers the principles of forecasting, financing, internal organization, product development, and physical facilities. The third section includes the planning of quality control functions, materials handling, selling the product, and administration. The fourth covers the dynamics of an industrial organization.

Developments in Plastics—1940 to 1945

THE NEW PLASTICS, by Herbert R. Simonds, M. H. Bigelow, and Joseph V. Sherman; D. Van Nostrand Co., 250 Fourth Ave., New York; 311 pages; $4.50.

Advances made in this rapidly changing industry over the last five years, including many of the wartime developments, are related in this book. Of interest to the textile mill man are the chapters on new fibers and coating solutions. Among the new fibers discussed from the physical-properties point of view are nylon, Aralac, Vinyon, Velon, Polyfiber, Fortisan, strong rayon, and staple rayon, and soybean fiber.

Other Publications

SYMPOSIUM ON ANALYTICAL COLORIMETRY AND PHOTOMETRY; American Society for Testing Materials, 260 S. Broad St., Philadelphia 2; 75 pages; $1.00.

AMERICAN INDUSTRY LOOKS AHEAD and POSTWAR VIEWS OF AMERICAN MANUFACTURERS; Committee for Economic Development, 285 Madison Ave., New York 17; 63 pages plus 34 pages; no charge.

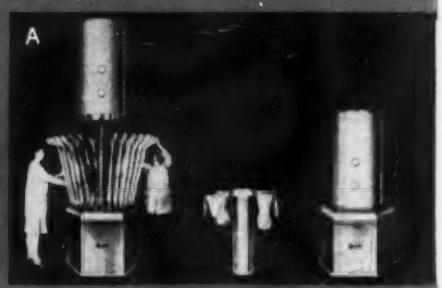
SIMPLICITY OF DESIGN
ECONOMY OF OPERATION
INCREASED PRODUCTION

The new PROCTOR *Preboarding* MACHINES FOR NYLON HOSIERY

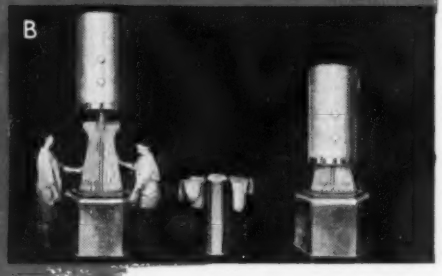
Here's a new preboarding machine that combines all you are seeking in efficient operation. It meets your demand for increased output and insures consistently high quality results. Equipped with 30 boards and occupying only about 10 square feet of floor space, each machine is capable of handling 18 dozen pairs of hosiery per hour. However, the machines are most efficient when operated in pairs, by two boarders who work together on one machine and then on the other. Thus, you see, the production capacity of two boarders on two machines is 36 dozen pairs per hour. Actual labor requirement is only one boarder for each machine in use. There is no laborious work for the boarders, other than stripping and boarding of stockings. Unit is shipped assembled, requiring no assembly other than steam and electrical connections. Write for details.

In photo A, boarders are beginning to place stockings on boards of machine at left. Stockings have already been placed on boards of machine at right and that machine is closed while steaming takes place. In photo B, boarders have finished the boarding operation on machine at left. Cylinder will be lowered to form steaming chamber. Steaming having been finished in machine at right, the cylinder is automatically rising. As machine at left closes, boarders will move to machine at right, strip finished stockings and replace with others.

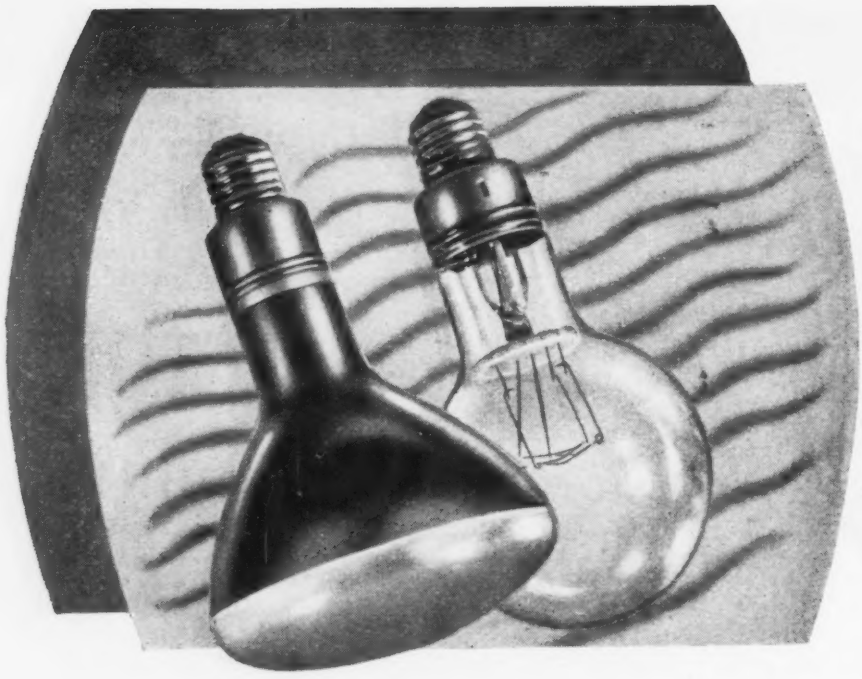
A



B



PROCTOR & SCHWARTZ · INC—7th STREET and TABOR ROAD · PHILADELPHIA 20 · PA.



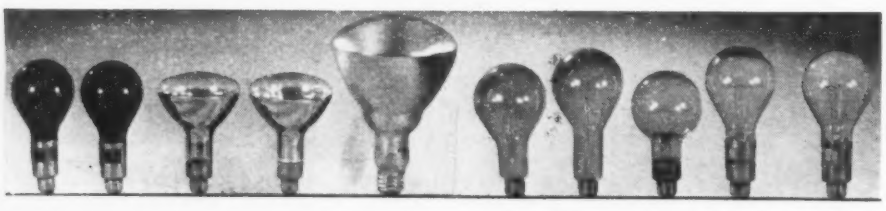
SAVE TIME • SAVE MONEY with INFRA-RED

Infra-Red radiation—deep-penetrating heat as supplied by Wabash Infra-Red Heat Lamps—has proved its worth in countless American industries. And nowhere more dramatically than in Sanforizing and other textile finishing processes, where drying time is often speeded up as much as 100%.

Wabash-Birdseye Infra-Red Heat Lamps are inexpensive. Maintenance is easy and economical. Results are better and more uniform. And installation can be made with minor alteration of existing equipment.

These lamps are standard for most Infra-Red production line equipment. For maximum efficiency your Infra-Red set-up should be engineered by an accredited manufacturer of such equipment. We will gladly furnish names of such manufacturers. Address—Wabash Appliance Corporation, 345 Carroll Street, Brooklyn 31, N. Y.

WABASH-BIRDSEYE
First in INFRA-RED



Round Table

FOR EXCHANGE OF IDEAS

The Round Table is designed to supply a meeting place where mill men can discuss problems among themselves. It is open to all readers for discussion of subjects relating to mill management and operation. Names of contributors to the Round Table will be held confidential if so requested, but sign contributions with your real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table, Textile World, 330 West 42nd St., New York 18, N. Y.

How Do You Tie A Double Weaver's Knot?

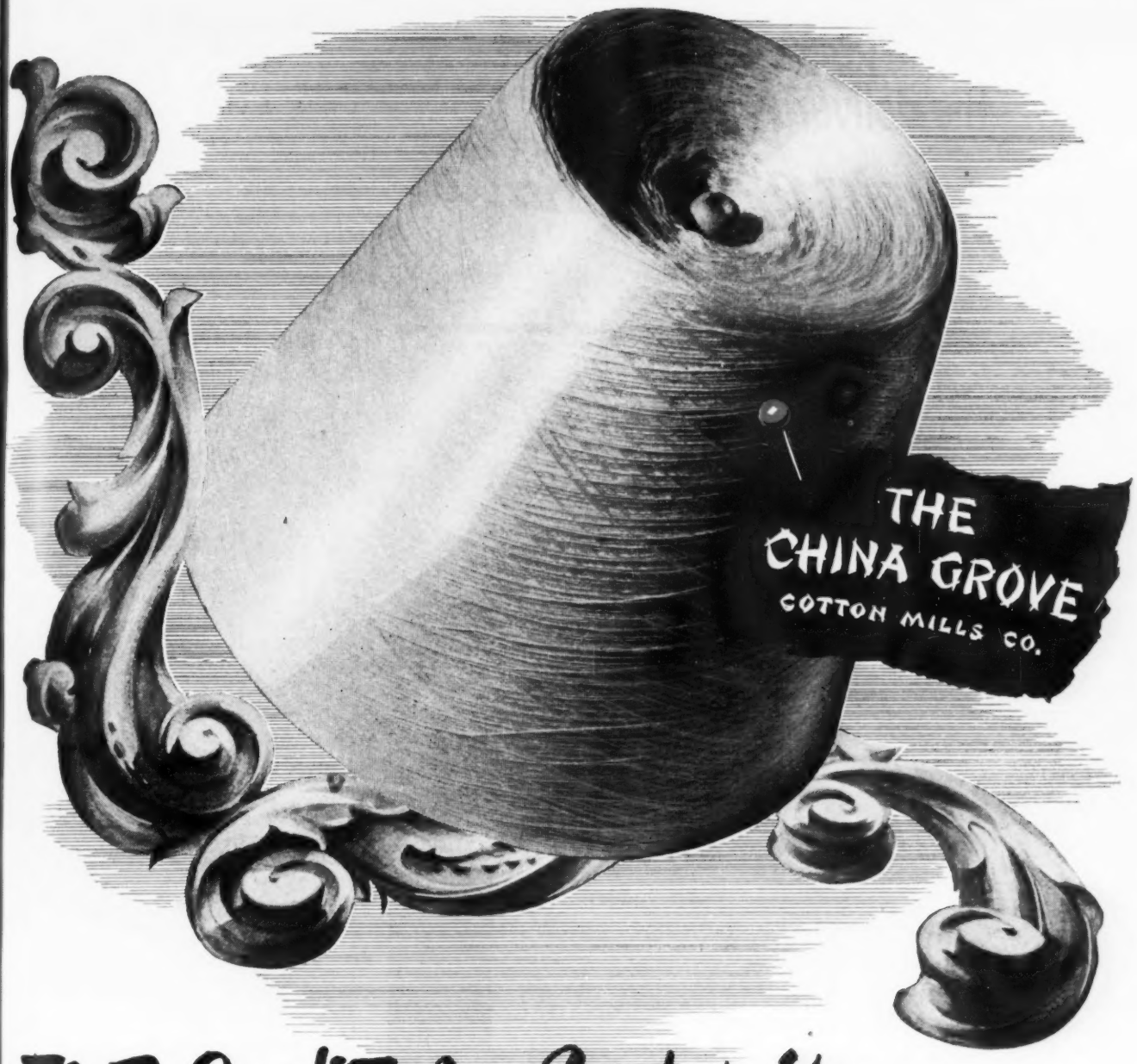
Now that continuous-filament nylon is again in prospect, much interest is being shown in details of processing and handling it; and one of the important details is how to tie a knot that will not slip. Readers of the Round Table will be interested in a discussion of the best method of tying a double weaver's knot for this purpose. *(R-189)*

If you know how the knot is tied, let us hear from you. Published answers and drawings will be paid for at our regular contributor's rate.—*Editor.*

British Manufacturers Consider Wool Blends

The idea that the processing of each fiber now available for textiles comprises a separate industry is giving way in the British view to the idea that they are only variations within a single industry. Synthetics are beginning to be regarded as complementary, rather than competitive, to cotton and wool.

Consequently, British manufactur-



First Quality in Combed Yarns

LIVELY SPINNA CALF

It's the Triple-Resilient Roll Covering

Mills whose reputations depend on quality insist that nothing takes the place of *leather* rolls for fine spinning . . . and no roller leather is as consistently high-quality as Lawrence's Spinna Calf . . . The "grain" side of calfskin has *natural* characteristics for drafting — unequalled by any other material. Spinna Calf has become, through the years, the most generally used calfskin. Results — in terms of yarn quality—must be the reason. *Specify* Lawrence Spinna Calf . . . A. C. Lawrence Leather Company, Peabody, Mass., manufacturers of Lawrence Calfskins—*1st choice for aprons.* Represented by H. H. Hersey, Greenville, S. C.

EVERY YEAR MORE PEOPLE DECIDE LEATHER IS BEST

Air Express speeds the delivery-day of YOUR NEW REFRIGERATOR

The day is here when industry is getting back into the production of consumer goods on schedule. And Air Express is greatly speeding the program.

War plants now engaged in making refrigerators or autos, for example, require new tools, dies, critical machinery and parts. Via Air Express, such material is obtained in a matter of hours — delivery speed that can gain days and weeks of conversion time.

Specify Air Express-a Good Business Buy

When time means man-hours saved, production gained, a customer made — Air Express "earns its weight in gold," as thousands of firms, large and small, have learned.

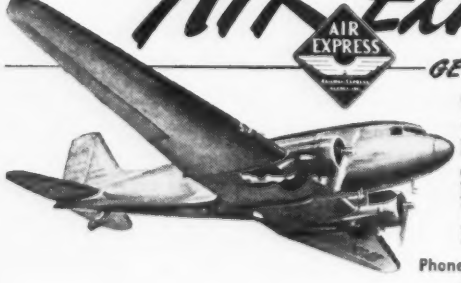
Shipments travel at a speed of three miles a minute between principal U. S. towns and cities, with cost including special pick-up and delivery. Same-day delivery between many airport towns and cities. Rapid air-rail service to 23,000 off-airline points in the United States. Service direct by air to and from scores of foreign countries.

AIR MILES	2 lbs.	5 lbs.	10 lbs.	25 lbs.
250	$1.04	$1.25	$1.57	$2.63
500	$1.11	$1.52	$2.19	$4.38
1000	$1.26	$2.19	$3.74	$8.75
2500	$1.68	$4.20	$8.40	$21.00

AIR EXPRESS

AIR EXPRESS

GETS THERE FIRST



Write Today for interesting "Map of Postwar Town" picturing advantages of Air Express to community, business and industry. Air Express Division, Railway Express Agency, 230 Park Avenue, New York 17. Or ask for it at any Airline or Express office.

Phone AIR EXPRESS DIVISION, RAILWAY EXPRESS AGENCY
Representing the **AIRLINES** of the United States

ers are looking to blends, particularly with wool, which could be produced cheaply enough to compete favorably for export trade.

An example is a fabric containing 50% merino wool and 50% Ardil which would, it is thought, look and handle like a cloth of all-merino wool. (*R*-188)

Oilless Bearing Use Approved by Mill Man

Your article on oilless bearings (TEXTILE WORLD, September, page 159) was good. I have long advocated the use of oilless or ball bearings in preference to regular plain bearings wherever it is possible to use them. So often, bearings which are "supposed" to be oiled rarely get a drop of oil; and yet the oiler may waste quite a bit of oil in a half-hearted attempt to lubricate the bearings. (*R*-187)

Is There a Formula For Cutting Flutes?

In our mill, we are using fluted metal top rolls on our silver-lap machines. Particulars as follows:

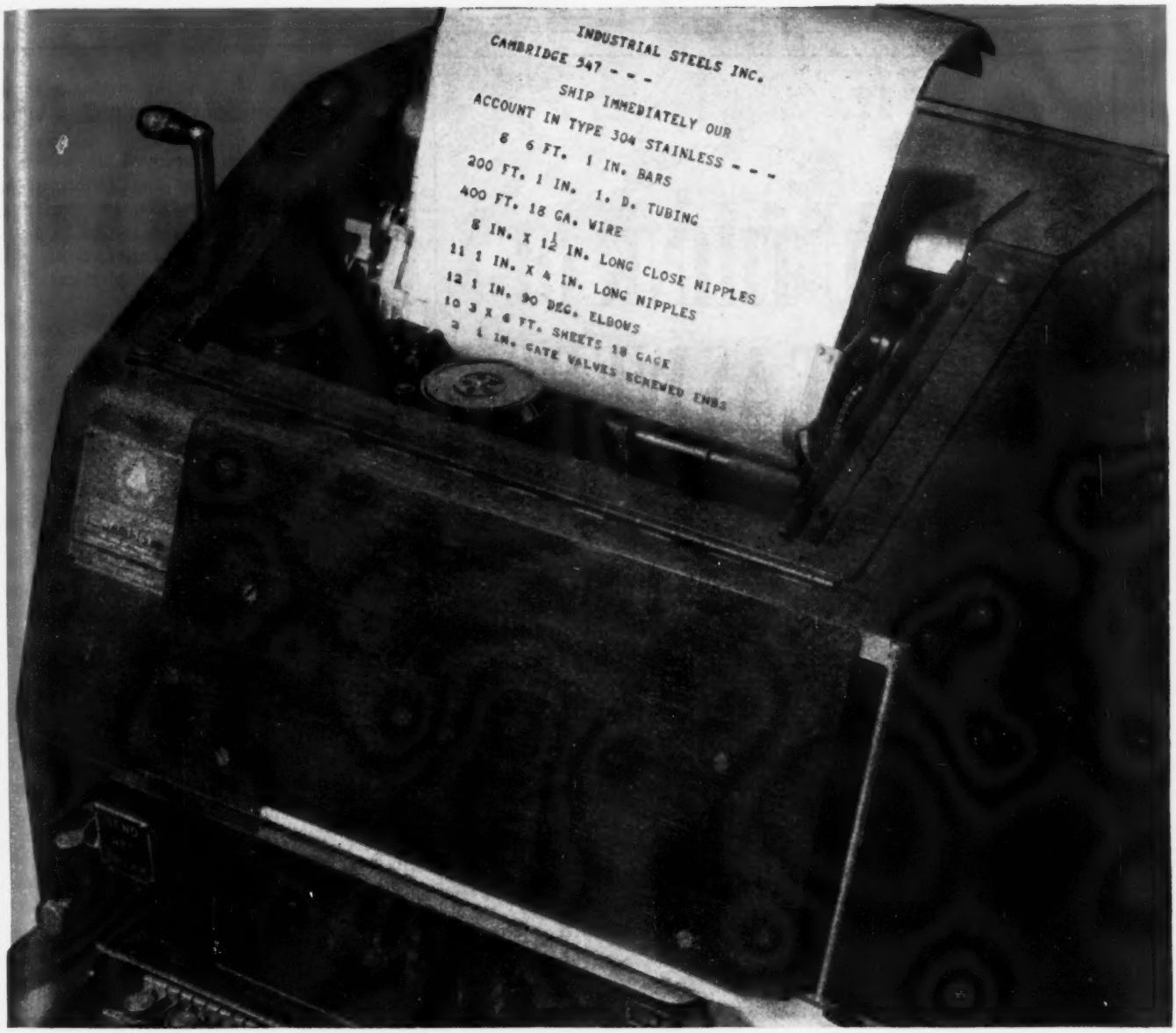
Roll	*Outside dia. (in.)*	*Flutes*	*Pitch*	*Dia. collar*	
Front	1.5	48	32	Roll dia. — 0.044	in.
Middle	1.5	36	24	Roll dia. — 0.06	in.
Back	1.5	24	16	Roll dia. — 0.07	in.

We realize that the diameters of the collars must be such that they keep the flutes from bottoming and so cutting the work being processed. We know also that these diameters are determined by empirical standards. However, we would like to know whether or not there is a formula to be used in arriving at the proper diameters for these collars and for cutting the flutes, such as for gear cutting, etc. *(R-184)*

British Mill Uses Plastics With Wool

The application of plastics to woolen fabrics by Hunt & Winterbotham, Ltd., a subsidiary of Winterbotham, Strachan & Playne, Ltd., woolen manufacturers, is being watched with interest by the woolen branch of the British textile industry.

Although cotton manufacturers in Great Britain for some time have been applying plastics to many of their


INDUSTRIAL STEELS INC.
CAMBRIDGE 547 - - -
SHIP IMMEDIATELY OUR
ACCOUNT IN TYPE 304 STAINLESS - - -
6 6 FT. 1 IN. BARS
200 FT. 1 IN. I. D. TUBING
400 FT. 18 GA. WIRE
8 IN. X 1/2 IN. LONG CLOSE NIPPLES
11 1 IN. X 4 IN. LONG NIPPLES
12 1 IN. 90 DEG. ELBOWS
10 3 X 6 FT. SHEETS 18 GAGE
2 1 IN. GATE VALVES SCREWED ENDS

THE fabricator of stainless steel equipment whose order you see coming off the teletype machine . . . like many other users of Stainless shapes and parts . . . has learned that all his orders for Stainless will be filled completely and promptly from the huge warehouse stocks of INDUSTRIAL STEELS, INC.

There is no price premium for this complete service, regardless of quantity.

Now it is not necessary to place orders for Stainless with a number of suppliers. You can save time and money in ordering . . . and can avoid delays in deliveries . . . by letting one order do it all.

Whenever you need ANYTHING in Stainless, get in touch with INDUSTRIAL STEELS first.

INDUSTRIAL STEELS, INC.

Everything in Stainless

267 BENT STREET • CAMBRIDGE 41, MASS.
TROWBRIDGE 7000 • TELETYPE: CAMBRIDGE 547

SHEETS • BARS • TUBING • WIRE • VALVES • WELDING ELECTRODES • PUMPS • PIPE FITTINGS • HARDWARE

JLMCoCI-KI

Stainless STEELS

INDUSTRIAL STEELS, INC.
267 Bent St., Cambridge 41, Mass.

Gentlemen: Please put me on the list to receive your complete catalog on Stainless Steels.

Firm Name .....

Address .....

City ..... Zone No. ..... State .....

Your Name and Title .....

DO YOU THINK OF SERVICE AS WE DO

AMONG some 15 definitions of "service" in the dictionary we like this one—"any work performed for the benefit of another".

For that precisely fits our relation to the mills we represent as selling agents.

And if you stress the word "any" you understand why we are as eager to appraise new materials and processes as we are to explore new markets, why we study accounting methods as zealously as crop reports, why we read mill blue prints with as keen interest as profit and loss statements.

We think the more we know about the textile industry — from field to consumer — the better we are able to serve our mills.

Evidently they too think so, if the length and strength of our relationships may be taken as a guide.

MINOT HOOPER & COMPANY

Selling Agents, 40 Worth Street, New York City

(Established 1841)

BOSTON • CHICAGO • SAN FRANCISCO • ATLANTA

products, this is the first use by a woolen mill of this method of finishing.

The fabrics employed are woven of good-quality wool and felted to increase their extensibility and resiliency. The plastic surface is applied by a special method to interfere as little as possible with the physical characteristics of the fabrics.

An examination of the product gives a favorable impression of its properties and uses. It is oil- and water-resistant, the surface does not dry or crack on prolonged tests and the insulating value is good. The immediate use for this material, trademarked "Lanide", is expected to be upholstery; but there is little doubt that a number of other uses will ultimately develop. *(R-182) P. Ripley, Fairfax, Chislehurst, Kent, Great Britain.*

Gadgeteers Menace Spinning Production

At one time or another, most spinning rooms come under the guiding hand of an overseer who is a gadgeteer —a man who will try an idea on a couple of stands, and if those two stands give him even a shadowy glimpse of the improvement he is seeking, he is ready to put the whole spinning room on it without looking further into the matter.

For the last two years, I have been in charge of a spinning room which in the past has suffered from a gadgeteer. To cite a few examples:

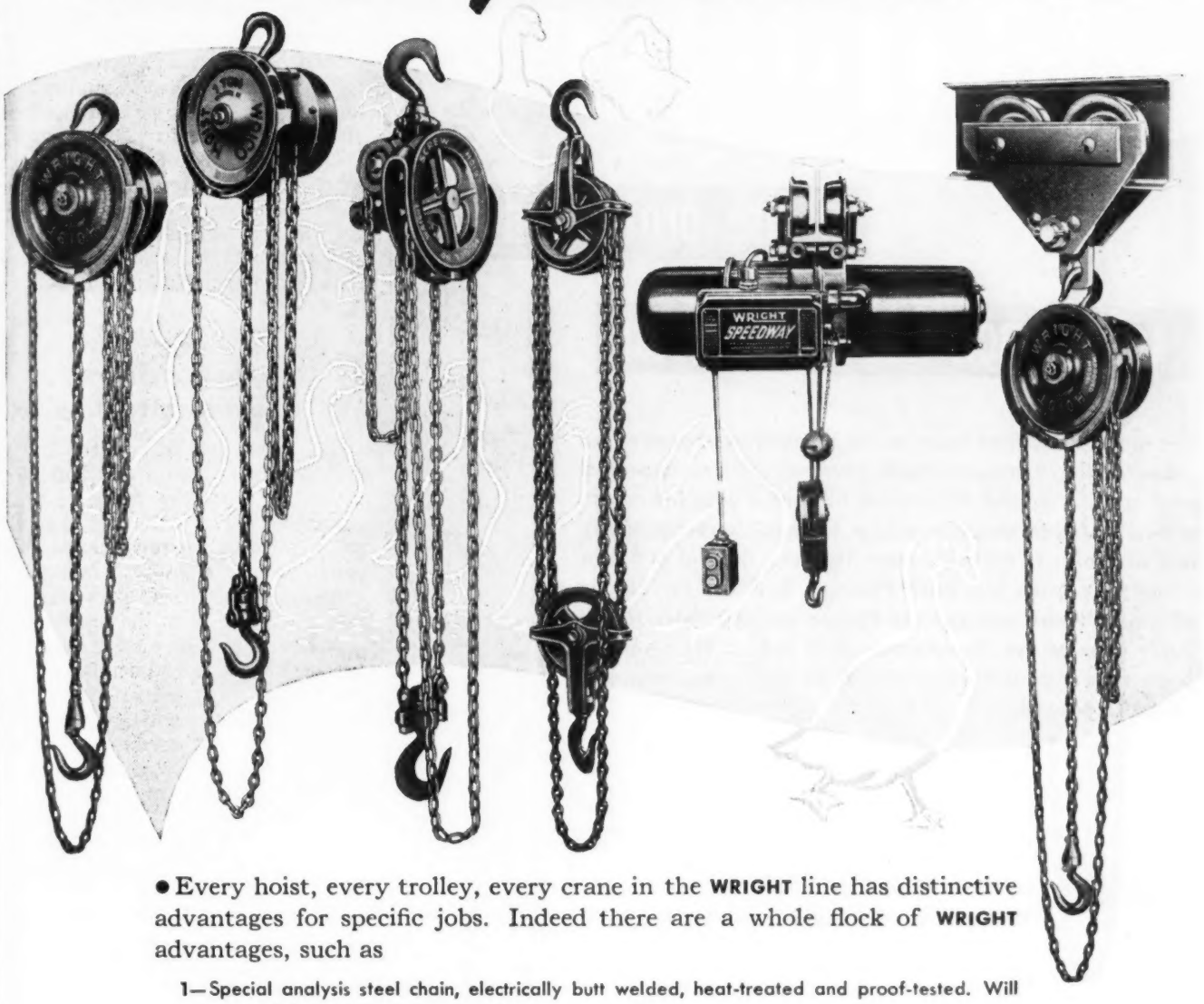
Ends were breaking at ring level, due, no doubt, to travelers not being changed at the proper time or to bad rings. When an end breaks at ring level, it will wind around the guide wire, catch the underclearer and stall it. The end coming from the rolls will spew out, lap onto other ends, and often tear down a whole stand of ends.

To combat this trouble, the gadgeteer had all the guide wires bent upward instead of having the travelers changed at the proper time or installing new rings. About the only change after having this done was a great increase in the amount of doublings and gouts in the yarn.

Another source of trouble was the roving coming through the rolls without being properly drafted. This was probably due to worn front saddles or to too much twist in the roving. To remedy this, all the weight levers were cut to add more weight to the rolls. As a result, the lever screws had to be run all the way to the bottom, leaving no

THE WRIGHT LINE

HAS A WHOLE *Flock* OF ADVANTAGES!



• Every hoist, every trolley, every crane in the **WRIGHT** line has distinctive advantages for specific jobs. Indeed there are a whole flock of **WRIGHT** advantages, such as

1—Special analysis steel chain, electrically butt welded, heat-treated and proof-tested. Will not work harden.
2—Each link is gauged to fit pocket wheel. The chain is exceptionally high in tensile strength.
3—Non-fouling chain guide permits pulling of hand chain from any angle below hoist.
4—Planetary gear reduction of efficient and compact design.
5—Drop forged bottom hook from special analysis steel gives visible warning when overloaded through slowly opening without fracture, thus providing safe operation.
6—Precision ball bearings to increase efficiency and ease of operation.

Another **WRIGHT** advantage is engineering based on three principles: Safety, Efficiency and Economy. See your local **WRIGHT** distributor.

ARMY-NAVY E

ACCO

York, Pa., Chicago, Denver, Los Angeles, San Francisco, Portland, New York, Bridgeport, Conn.

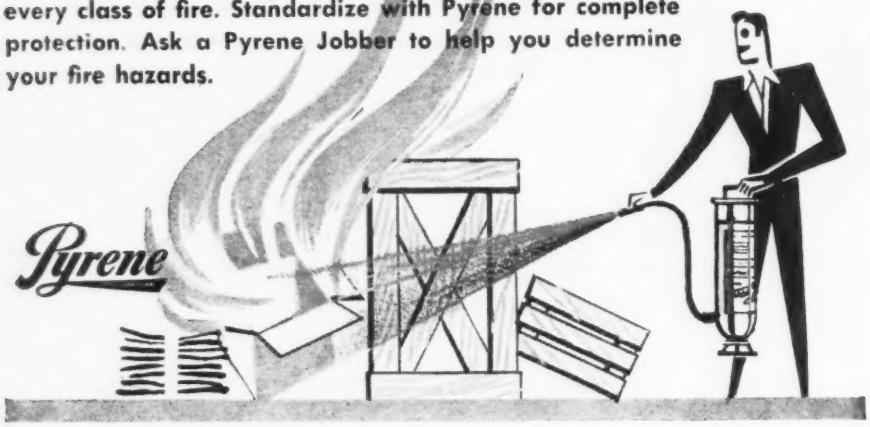
WRIGHT MANUFACTURING DIVISION
AMERICAN CHAIN & CABLE

TRADE MARK

In Business for Your Safety

STANDARDIZE ON PYRENE Flexibility in fire protection to meet each hazard and risk

Too many small fires have ended disastrously because the proper extinguishing methods were not selected to protect each specific hazard. This cannot happen if your fire equipment is flexible and the proper extinguishers are ready and available to meet different fire risks. Control of fire in all of its phases has been Pyrene's business for almost 40 years. There are specific Pyrene extinguishers to kill every class of fire. Standardize with Pyrene for complete protection. Ask a Pyrene Jobber to help you determine your fire hazards.



For class "A" fires (fires in ordinary combustible materials—wood, textiles, rubbish, etc.) that frequently occur in warehouses, lumber yards, about farms, in homes, storage spaces or around docks, a Pyrene soda-acid, foam, water or anti-freeze type of extinguisher is recommended, and approved where cooling and quenching effect is of first importance.

BY THE WAY: WHEN DID YOU LAST TEST THE EXTINGUISHERS IN YOUR HOME?

Pyrene Manufacturing Company
NEWARK 8, NEW JERSEY
AFFILIATED WITH THE C-O-TWO FIRE EQUIPMENT CO.

room for adjustment. As the saddles became worn, it was necessary to bend the loop in the lever screw in order to get the lever off the floor board. Often the loops were turned wrong and let the levers down, taking all the weight off the rolls and causing gouts to come through.

I get a pessimistic feeling when I walk the cross alleys and see the ends broken back because of crooked steel rollers, bent and worn spindles, and missing parts which we have not been able to replace due to the war shortage.

Of course, what our mill, and many others, needs is new and better machinery and repair parts. If we ever get them, it will not be advisable for anyone to mention a gadget to me.—*(R-186) Thomas H. Ayers, Lexington, N. C.*

Training Supervisors Will Demand Attention

The supervisory force of the average mill has fallen below par almost in proportion with the operative force, and it will be much slower than the latter to reach normal again. The emphasis of the mills' training program must, as labor becomes available, turn the operative to the supervisor.

A few years ago, a fairly large percentage of mill second hands were college-trained men; but at present, the percentage is negligible. As the general void of young, educated men is filled, some of these men will enter the textile-manufacturing field.

Accompanying this trend will be a market growing steadily more competitive. More will be required of operator and supervisor, and there will be no place in an organization for a supervisor whose mind is closed or inactive, or whose personality is short in forcefulness and diplomacy.

It would be well for all second hands, overseers, and superintendents to take stock of themselves, and also to study their requirements for supervisory aides. The worn-out classification of supervisors as "practical" or "technical" has resolved itself into uneducated or educated, and the experience of mills has led them preponderantly to favor the latter.

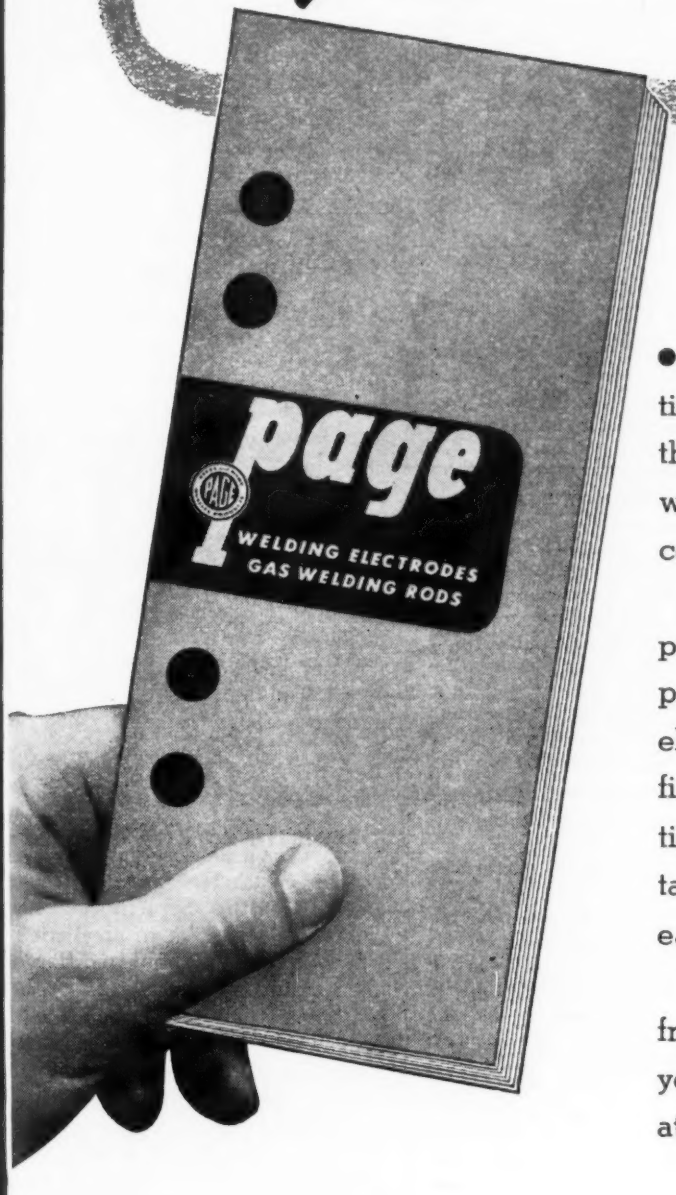
As educated men again begin to enter the industry, overseers and superintendents should try to instill in them the following points while training them for supervisory work:

1. A sound general knowledge of the mechanics of the processes.
2. An over-all picture of their part in the organization.

(Continued on page 184)

PAGE *Welding* ELECTRODES

IT WILL SOON BE *Dog-Eared* FROM USE



● This new **PAGE** book is so informative, so complete and so easy to use, that we prophesy in many shops it will soon become dog-eared from constant use.

Twenty-eight different classes of production welding are listed. Opposite each is the recommended electrode or gas rod. Complete specifications and welding characteristics of each electrode and rod are tabulated for quick reference and easy reading.

You can get copies of this book from your **PAGE** distributor. Or, if you prefer, write to the **PAGE** factory at Monessen, Pa. Ask for DH-821.

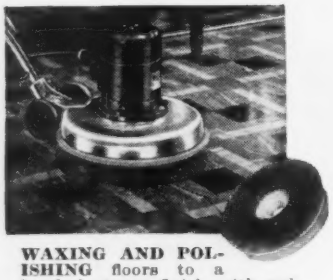
ACCO

Monessen, Pa., Atlanta, Chicago, Denver, Los Angeles, New York, Pittsburgh, Portland, San Francisco, Bridgeport, Conn.

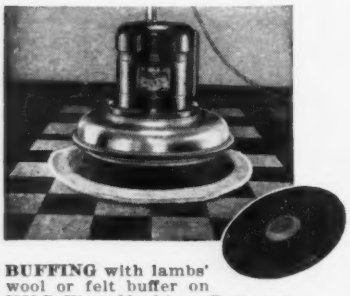
ACCO TRADE MARK

PAGE STEEL AND WIRE DIVISION
AMERICAN CHAIN & CABLE

KEEP ALL YOUR FLOORS CLEAN AND SLIP-SAFE with the HILD FLOOR MACHINE

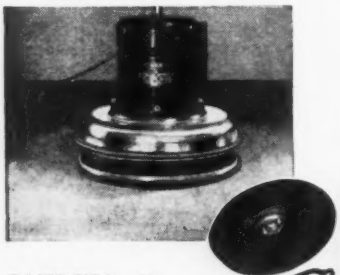


WAXING AND POLISHING floors to a hard, lustrous finish with polishing brush on HILD Floor Machine.



BUFFING with lambs' wool or felt buffer on HILD Floor Machine. Removes streaks, goes under radiators, polishes waxed cove baseboards.

STEEL - WOOLING with pad and holder on HILD Floor Machine. Used for dry cleaning, polishing, scrubbing, wet buffing of penetrating seals, etc.



SANDING disc on HILD Floor Machine sands wood or cork tile. A 3-inch flat counter-sunk plate holds sandpaper firmly to rubber padded metal disc.

Plain-Handle Standard Floor Machine Used to scrub, wax, polish, buff, sand, grind and steel-wool floors of all kinds.

Portable Tank Type Shower-Feed Floor Machine Scrub floors with the Shower-feed Brush shown below. Also waxes, polishes, buffs, sands, grinds and steel wools.

HILD Floor Machines are designed for use with easily interchangeable attachments to condition and maintain floors of all kinds . . . either in the mill or in office areas. They speedily scrub open areas in lanes between machines . . . yet are easily guided into hard-to-reach spots under and around machinery. Scrubbing with the Tank-Type Machine and Shower-feed Brush gets floors cleaner with less scrub-soap solution . . . cuts Soap costs . . . does not splash water on machinery or furniture . . . requires less time and labor to pick up dirt and water.

The HILD Machine operates so easily that either a man or woman can run it for long periods without tiring. It is practically noiseless in operation. The G. E. Capacitor type motors have no carbon brushes or commutator to gather dust and lint or wear out . . . made for long, trouble-free service.

HILD Patented Shower-feed Brush

This diagram illustrates the famous HILD Shower-feed principle. Scrub-soap solution is fed from the storage tank to the back of the brush . . . then passes through accurately spaced holes penetrating the brush back *between each row of bristles.* Solution is whipped up by the bristles into rich cleansing suds and evenly distributed under the brush area. Result: Speedy, thorough scrubbing action with minimum soap solution. The brush is refillable.

HILD System MAINTENANCE EQUIPMENT & SUPPLIES

Write today for FREE CIRCULAR

HILD FLOOR MACHINE COMPANY

1313 W. Randolph St., Dept. TW 11, Chicago 7, Ill.

(*Continued from page 184*)

3. The necessity of being good managers.
4. Elements of help management.
5. The importance of experimentation and research.
6. The necessity of personality and character growth.

Falling short on any one of these six points will prevent a second hand from becoming a good overseer, or an overseer from becoming a good superintendent.

While a mill can justly expect these requirements of its men, the men can with equal justice expect that the mill provide them with:

1. Pay increases
2. Promotions
3. Job and company satisfaction. *(R-190)*

Readers Comment On Synthetics Survey

We think you have done an excellent service by compiling the synthetics report which appeared in the September issue (TEXTILE WORLD, opposite page 116.) *(R-191)*

We find after counting heads that we can make use of 100 copies of this valuable chart. *(R-192)*

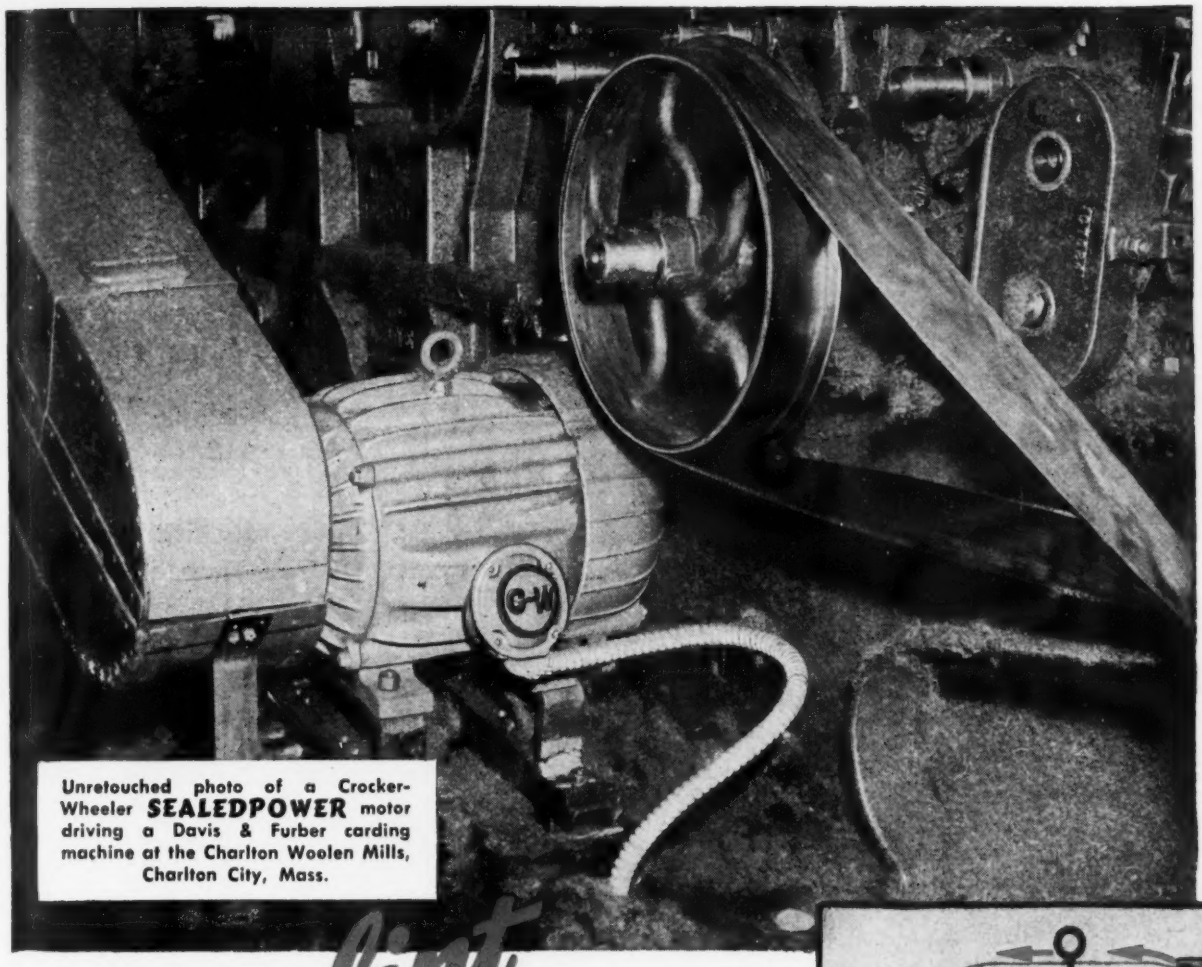
Your "21st Annual Synthetics Survey" is an outstanding service to the industry. *(R-193)*

Laboratory Questions Strength of Vinylidene

The Synthetics Survey which appeared in the September issue of TEXTILE WORLD is an excellent piece of work, and our only question as to its technical accuracy is in regard to the figures quoted for the strength of vinylidene. You give the strength of these fibers as 4 to 6 gm. per den.

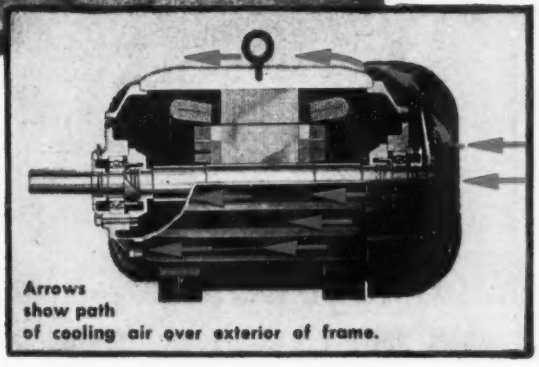
Although these coincide with those given by Dr. Appel (Bureau of Standards), Dr. Smith in his Marbury lecture, and TEXTILE WORLD'S previous figures, our laboratory has not been able to substantiate a strength for vinylidene fibers in excess of 2.3 gm. per den. We have found that this figure represents the fiber's maximum strength. *(R-194)*

Editor's Note: Tests made for TEXTILE WORLD tend to confirm a lower figure than 4 to 6 gm. per den. for vinylidene, and additional checks are being made.



Unretouched photo of a Crocker-Wheeler **SEALEDPOWER** motor driving a Davis & Furber carding machine at the Charlton Woolen Mills, Charlton City, Mass.

Mere lint WON'T STOP THIS MOTOR



Arrows show path of cooling air over exterior of frame.

Lint drawn into the fan guard is blown *over* the frame with the cooling air (see cutaway view of motor). None can find its way into the tightly sealed interior of the motor—to the rotor and stator windings where damage could be caused. And what's more, unlike conventional fan-cooled types, a **SEALEDPOWER** has no easily-clogged, hard-to-clean air passages in which lint can hide away and sabotage the flow of vital cooling air.

This motor also provides the same kind of protection against steam and air borne moisture. That is why it is becoming increasingly popular for the tough "wet" applications — such as dye kettles, for example — in textile plants.

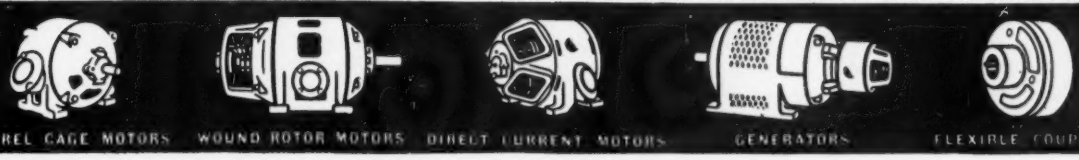
Why not ask your local Crocker-Wheeler representative for more information about this unique motor? He will tell you about its dynamically balanced, practically indestructible Alucast *rotor; its patented bearing seals and vacuum impregnated windings. Or if you prefer, we shall be glad to send you a description by mail. Write today.*

CW-2

CROCKER-WHEELER

A DIVISION OF JOSHUA HENDY IRON WORKS, AMPERE 35, NEW JERSEY

Branch Offices: BOSTON · BUFFALO · CHICAGO · CINCINNATI · CLEVELAND · DETROIT · LOS ANGELES · NEW YORK · PHILADELPHIA · PITTSBURGH · SAN FRANCISCO · WASHINGTON



SQUIRREL CAGE MOTORS WOUND ROTOR MOTORS DIRECT CURRENT MOTORS GENERATORS FLEXIBLE COUPLINGS

SULPHO HAND CLEANER

WILL NOT DEFAT THE SKIN

For those who have naturally dry skin and for those who must in the course of their work dip their hands in solvents, degreasing compounds and similar materials, West offers this new special type of hand cleaner. Due to the nature of the product, it has an almost neutral pH. Sulpho Hand Cleaner is manufactured from the highest quality sulfonated castor and vegetable oils but its cost compares favorably with other products of lesser efficiency.

Especially recommended for women workers. • Send for FREE booklet

WEST DISINFECTING Company

42-16 WEST ST. • LONG ISLAND CITY 1 • N. Y. • DEPT. TW

Questions AND Answers

Skein Production Increased on Reelers

Technical Editor:

We are interested in increasing production in our skein-reeling work and will appreciate any detailed information you may be able to give us as to how it can be done.

At present, yarn is unwound from tubes and cones onto 54-in. or 60-in. reels. Considerable time is consumed in tying up each skein, and it is this feature of the work that we are trying to improve. We use tie-bands previously cut to the correct length before insertion in the skeins. However, we believe a faster method is unwinding the tie-bands from the cone or package and cutting them after or directly before they have been inserted in the skein. (9065)

Skein reeling production is related to several factors such as reel speed, size of supply package, size of skeins, removal of the skeins from the swift and bundling, number of tie-bands per skein, proper diamond formation, and probably most important of all, the skill of the operator in inserting tie-bands.

A thread speed of no less than 1,200 ft. per min. is recommended for fine yarns of normal strength. Higher speeds are readily obtainable on coarser sizes. A large supply package is of definite advantage. The same thing is true of the size of the skein. The number of tie-bands per skein is largely controlled by its end use. Skeins to be exposed to wet treatment call for more tie-bands and should not be overly large.

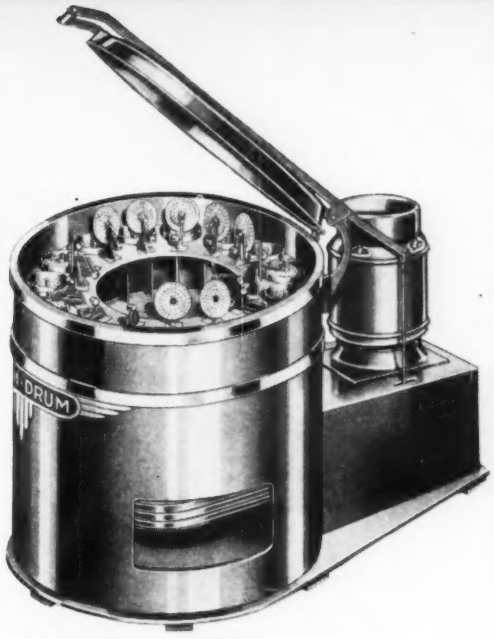
The thread should lay on the swift in such a manner as to produce clear-cut, diamond-shape openings to facilitate the lacing. The necessity of having well-shaped diamonds is obvious, as it helps the operator to place the tie-bands with greater ease. If the skein is spread on the reel over 3½ in. at the start, it is desirable to have the spread extended to 4 in. at the finish.

A skilled operator is able to insert 180 tie-bands per hour, besides taking care of the removal of skeins, summary

Reduces Moist[illegible] Content

To 42% In 70

The *New* SMITH-DRUM PACKAGE EXTRACTOR



In 70 seconds' running time, this new SMITH-DRUM Package Extractor will reduce moisture content to 42%! This means a big saving in both steam and electricity.

Labor costs are also reduced because loading and unloading are so simple that even a girl can operate the machine. Total cycle, including loading and unloading, is 2 minutes. This new machine also completely reshapes the package, resulting in better appearance and less waste in winding. There is no possibility of crushing the tubes. Complete information will be sent upon request. Write, wire or telephone . . .

SMITH, DRUM & COMPANY, Allegheny Avenue at 5th Street, Philadelphia 33, Pa.

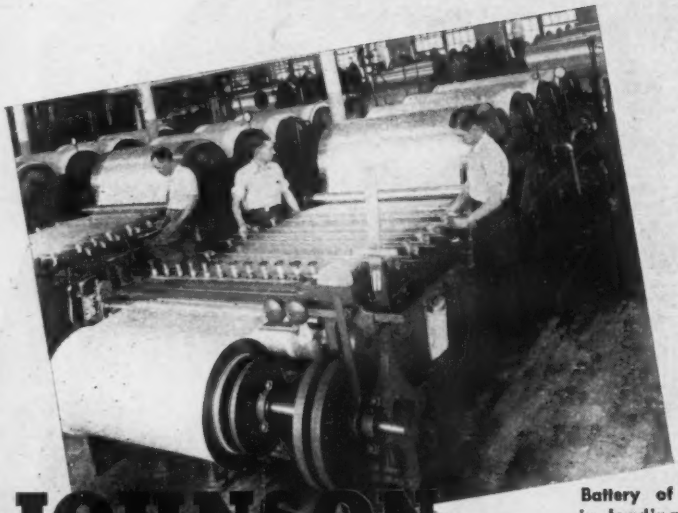
ARMY (E) NAVY

4 times winner of Army-Navy "E"

SMITH-DRUM Textile Machines

for hosiery dyeing, skein dyeing, package dyeing, beam dyeing, piece goods dyeing, package extracting, package drying, skein mercerizing, warp mercerizing, hosiery inspection.

They HAD to be GOOD



Battery of Johnsons in leading Southern mill.

JOHNSON RAYON WARP SIZERS

Courtesy of the Waumbec Mills, Manchester, N. H.

Courtesy of Verney Mills, Manchester, N. H.

Ask the mills that are using them— here and in many foreign countries.

Charles B. Johnson MACHINE WORKS

PATERSON NEW JERSEY

bundling, and replacement of exhausted supply packages. From 45 to 50% of the operator's time is generally spent on the lacing and the tying of the tie-bands.

To reach satisfactory production, it is desirable to supply the operator with ready-cut tie-bands. Unwinding the tie-bands from a cone or package and cutting them after they have been inserted in the skeins or directly before, is not recommended. This procedure is time-consuming and fails to control the uniformity of length of the tie-bands. The preferred tie-band length for a skein having a 4-in. width is 14 in.

Conditioned Yarns Twist When Running New Creel

Technical Editor:

After creeling our Swiss warper creels with new yarn, we have trouble in bringing the knots through the reeds. Upon leaving the glass guides on the creel, the ends tend to twist up with adjacent ends on striking the reed. We have checked the tensions and pins and found them free-running yet, when about a foot of yarn is held with both hands and slack inserted, a kink of 1 or 2 in. will appear between the reed and the creel. After the knots have run through, we have no more trouble. (9070)

This problem is experienced by most mills running highly twisted yarns. The twisting and rolling can be kept at a minimum if the creeling operators will be sure to pull off all slack-twisted yarn before tying knots and if they are reasonably careful not to pull the yarn suddenly and thus disturb the twist. The inquirer has undoubtedly noticed that trouble is quite pronounced when tying S-twist yarn to Z-twist, or vice versa. Only extreme care when pulling the knots through will minimize the rolling and twisting when opposite twists are tied together in creeling.

When the creeling operator ties the new end to the old, he should back the slack yarn onto the new bobbin so that the end remains taut at all times. This procedure is not so essential on soft-twisted as on hard-twisted yarns.

There should not be too sharp an angle for the threads to go around, either at the creel or at the reed; and the ends should not be crowded. It is easy to understand how crowding ends through dents makes the yarn lively; however, if this were the condition in the present case, the trouble would continue after the knots have been run through.

As a final thought, creeler operators

(*Continued on page 193*)

W WOULD *You* PRINT THIS PATTERN ON *Rayon Crepe?*

Printex Used Aridye* Yellow FYG To Produce an Exceptionally Bright, Clear Discharge Effect

This enchanting Rag Doll print on rayon crepe dress goods was produced by the Printex Division of Allied Textile Printers, Inc., for Belding Heminway Corticelli, noted rayon dress goods manufacturer.

Printex knew that an exceptionally bright, clear yellow discharge effect could be obtained inexpensively and easily with Aridye Yellow FYG.

So here's how Printex did the job: The gray ground was dyed with a dischargeable direct color in the usual manner. Then the fabric was printed with Aridye Yellow FYG cut 1:5 with regular Aridye Clear containing 16 ounces per gallon of sulfoxylate. After printing, the fabric was dried on a loop dryer, padded with peroxide, steam aged, and washed.

Results: A bright yellow print, with a sharp mark, and complete freedom from halo. The fabric has a desirable, mellow hand. The fastness meets all requirements for dress goods.

This is one of the many examples of the way in which Aridye pigment colors are being employed to advantage for day-in-and-day-out printing jobs. Further, Aridye pigment colors often provide the answer to unusual printing problems which would be difficult or impossible to solve with ordinary dyes or conventional methods.

An Aridye Corporation technical service man will be glad to discuss where and how you can benefit from the use of Aridye pigment colors. Write to Aridye Corporation—pioneers in pigment colors for textiles—Fair Lawn, New Jersey.

U. S. Pat. Off.

CHECK THESE 8 ADVANTAGES

Sharpness of Mark • Exceptional Fastness to Sunlight • Uniformity of Shade • Fastness to Washing • Bright Colors • Economy Ease of Application • No Impairment of Hand

Aridye *Pigment colors*

YE CORPORATION • A SUBSIDIARY OF INTERCHEMICAL CORPORATION • FAIR LAWN, N. J. • ROCK HILL, S. C. • PROVIDENCE, R. I.

EVEN WAR CLOUDS HAVE THEIR SILVER LININGS

OUT OF AMERICA'S tremendous will to win—out of her gigantic war effort—have come new product developments and manufacturing short cuts which are now being applied to peacetime production.

And nowhere is this more marked than at the Cheney Mills in Manchester, Connecticut. Here, machinery has been re-geared and streamlined for high-speed production and new techniques evolved —*all* fitted into the Cheney pattern of unswerving quality manufacture.

New fibers and new combinations of fibers are being loomed into fabrics with remarkable new characteristics. These fabrics will soon be in general use in the Textile World, perhaps years ahead of their normal appearance-time, due to the accelerated demands of war.

Though shortages of yarn may at present mean shipment of these new fabrics in limited quantities, every effort is being made to step up production as conditions permit. Early ordering, however, is advised in order to avoid the extra delay that is so often the penalty of tardiness.

Help Support Your Country's Victory Bond Drive—Your Victory Bonds can help support you in years to come.

★ CHENEY FABRICS

CHENEY BROTHERS

Quality manufacturers since 1838

350 FIFTH AVENUE, NEW YORK 1, N. Y.

Velvets—Pile Fabrics—Cravats—Upholstery and Decorative Fabrics
Yarns for Industry—Men's Wear Fabrics—Machine Thread—Industrial Fabrics

Sales Offices

BOSTON • PHILADELPHIA • CHICAGO • LOS ANGELES

MILLS AT MANCHESTER, CONN.

ALSO AT MANCHESTER, CONNECTICUT, A SUBSIDIARY...PIONEER PARACHUTE COMPANY

(*Continued from page 190*)

should be cautioned not to break off the ends of their knots but clip them with scissors, and not leave the ends too long. Breaking the ends of the knots by hand is a sure way of making them lively and consequently causing tangles and broken ends.

In warping crepe yarns, if creeling is done with care, not more than six ends per 100 should come down in pulling through the knots, providing the kind of yarn is not changed. When yarn with a different twist is creeled in, more ends will come down in pulling through the knots; and when running S and Z twists in the same creel, tangling is greater than when running only one kind of twist.

Paper-Yarn Material Can Be Lacquer Coated

Technical Editor:

Is it practical to coat fiber cloth with lacquer by a roller-coating method instead of the spray method? Could a cloth-printing machine be used? (9073)

By fiber cloth, it is assumed that the inquirer means the paper yarn material used for automobile seat covers. This is usually coated by the transfer roller-coating machine, with the rolls rotating with the fabric. The coating solution is transferred from one roll to another in a system somewhat similar to the ink-distribution rolls of a printing machine. Finally, the material is transferred to the fabric, and the fabric is passed into a drying chamber.

A properly modified cloth-printing machine could probably be used.

The results obtained with a roller machine are in every way as satisfactory as a spray application and are much more economical.

Knit Jersey Material Causes Handling Problems

Technical Editor:

We are having difficulty handling the cutting and sewing of lightweight knitted jersey material due to the fact that the material has a tendency to curl on the edges after it is cut. We have been advised that sizing the cloth slightly would eliminate this condition. If you have any other solution to this problem, we would greatly appreciate your help. (9072)

While chemical solutions will help in correcting the above condition, such procedure is undesirable; and it is recommended that the conditions which create such curling be corrected. The chances are that the fabric has been stretched excessively, either in

OUT OUR WAY

OH-UH-WHY, I NEVER THOUGHT OF THAT--WHAT'S THE MATTER WITH ME?
NOW THAT SHOULD BE A GOOD LESSON IN ECONOMY TO THAT GUY--TH' IDEA OF LEAVIN' A LIGHT LIT WHEN HE AIN'T USIN' IT!
THAT'S LOOKIN' OVER A MOUNTAIN TO SEE A MOLE-HILL! WAIT'LL THAT BIG HELPER HITS THAT GREASE SPOT--TH' COMPANY'LL BE PAYIN' THROUGH TH' NOSE FER AN ACCIDENT THAT SPEEDI-DRI COULDA PREVENTED!
CLICK
PENNY WISE
J.R.WILLIAMS
COPR. 1945 BY NEA SERVICE, INC. T. M. REG. U. S. PAT. OFF.

A SAFE, SURE FOUNDATION for economy in any textile mill . . . floors that are free from dangerous oil- and grease-deposits! And SPEEDI-DRI . . . the oil-thirsty absorbent . . . is just what the doctor ordered for slick, sick surfaces . . . to cut down on falling accidents that mean lost productive time . . . soaring insurance-rates . . . costly hospital-bills.

SPEEDI-DRI is a *natural* because it works while *you* work . . . in safety! A white, granular substance, it imparts a bright *seeability* to textile mills . . . while soaking-up grease-and-oil deposits. No expensive machinery is needed to apply SPEEDI-DRI . . . no trained personnel. Just spread it out over offending surfaces . . . and immediately, you've got a carpet of safety underfoot . . . safe for working, safe for walking. Sweep it up, and floors are whistle-clean.

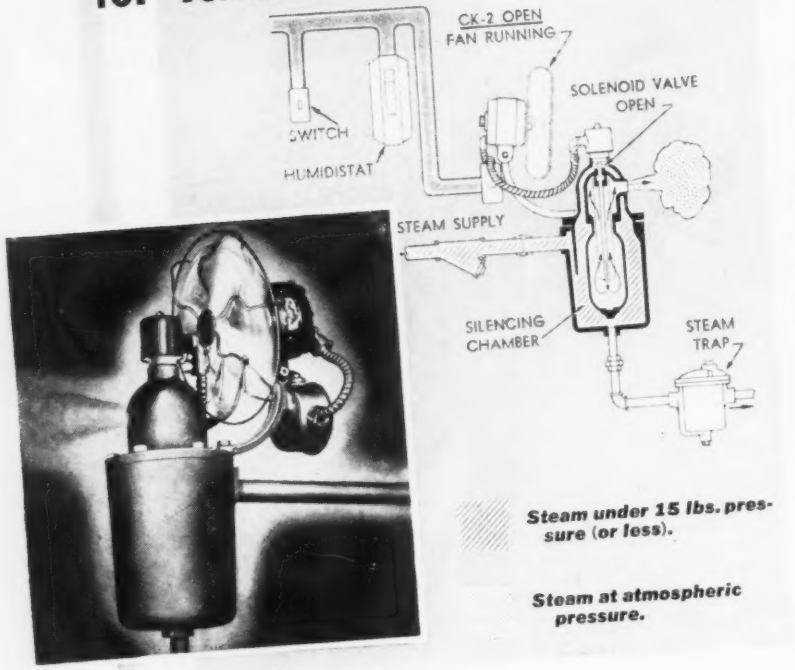
Yes, it's economy-wise to use SPEEDI-DRI! First, it cuts down on costly accidents . . . second, it releases man-power for more productive jobs . . . third, it helps preserve all types of floors . . . cement, wood, or composition.

Pin your card to this advertisement and mail today for full details and a generous sample of SPEEDI-DRI.

SUPPLIERS: East—Safety & Maintenance Co., Inc., New York 1, N. Y.
South, Midwest & West Coast—Waverly Petroleum Products Co., Philadelphia 6, Pa.

SPEEDI-DRI
OIL AND GREASE ABSORBENT

Here's Automatic, Dependable Steam Type HUMIDIFICATION for Textile Plants



A glance at the diagram above demonstrates some of the advantages* of Armstrong steam type humidifiers. Here's why operation is automatic and dependable; here's how relative humidity is maintained within close limits:

The sensitive humidistat is set for the desired relative humidity. When r.h. drops slightly below the desired point, the humidistat closes an electric circuit, opening the solenoid valve and allowing steam to pass into the room, where it is mixed with dry air by the fan. As soon as the moisture content of the room reaches the desired point, the valve closes and the humidifier stops operating.

*In addition to the above features, textile plant installations have proved that:

Installation costs are moderate, maintenance costs are very low, and operating costs are usually less than 1c per 24 hours per 1000 cu. ft. of space humidified.

It'll pay you to get the full story on Armstrong Steam Type humidifiers. Send for a copy of Bulletin 158 today.

ARMSTRONG MACHINE WORKS
872 Maple Street, Three Rivers, Michigan

ARMSTRONG
STEAM TYPE UNIT HUMIDIFIERS

the finishing of the cloth or in spreading it on the cutting table, or both.

With respect to laying up knit fabrics, it is imperative that specially designed and constructed laying-up machines be used.

The use of sizing in fabrics to eliminate curling not only gives an unnatural feel to the fabric, but also contributes to mechanical difficulties in the sewing process.

Bowing of Blankets Caused by Handling

Technical Editor:

We have been having a considerable amount of trouble in bowing of the border in blankets we are producing. Can you tell us the cause of this bowing and suggest a possible remedy? (9071)

By bowing it is assumed that the inquirer means that he finds his overplaid or check, or whatever type fancy is used, is uneven from selvage to selvage or side to side when the cloth is pulled over the finishing-room perch or examining table. In other words, assuming that pattern is a check, the direct line of the check tends to run in an arc from selvage to selvage.

This sort of trouble often occurs on overplaid styles for men's and women's wear. The only way to correct it is to instruct the press operator to be on his toes to check the overplaid or other pattern and be sure that the cloth is properly guided into the press. This can be done easily and the check can be brought to the examining table without an arc.

It is possible that this unevenness is caused by two yarns of different stock blends, such as cross dyes in which one type of stock is used for black and another type is used for cross dyeing. Assuming that the piece goods had to be fulled, the yarn made from stock that had better fulling qualities would full quicker, shrink greater, felt more, and cause the resulting piece goods to have a bowed-in appearance at the selvage and to be slightly cockled throughout.

If careful handling by the press operator does not correct the bowing, the inquirer should investigate the physical and chemical properties of the stock he is using.

Weaving Leno Fabrics

Technical Editor:

I am wondering if you could give me any information as to the manner in which the worsted doups for full turn leno work operate. (9046)

In weaving gauze or leno fabrics,

EVERY TYPE
of
WARP PREPARATION
is available
in the
QUALITY LOOM HARNESS EQUIPMENT
Ste-Hed-Co
LINE
Discuss your needs or problems
with our—Field Engineer
STEEL HEDDLE MFG. CO.
2100 W. Allegheny Ave., Philadelphia 32, Pa.
and
SOUTHERN SHUTTLES DIVISION
621 East McBee Ave., Greenville, S. C.

LOWELL
SHUTTLES
DOGWOOD OR
PERSIMMON—
FIBRE COVERED
OR PLAIN
BOBBINS
MAPLE, BIRCH
OR BEECH
A HALF CENTURY
OF EXPERIENCE
Experience is the best teacher and this company has had half a century of it in manufacturing shuttles and bobbins for all fibres.
All wood for Lowell Products is well seasoned and kiln dried. Every operation is performed in our own shop to control quality and speed up deliveries. Any desired finish can be furnished.
May we hear from you?
LOWELL SHUTTLE COMPANY
Established in 1896
15 TANNER STREET • • LOWELL, MASS., U. S. A.

two sets of harnesses are required: one for the ground and another set for the standard and doup. Ordinary harness frames are used for the ground, but a special arrangement must be used for the doup. The ends are drawn through the eyes of ordinary harnesses at the back, passed beneath the ground, and then drawn through the doups which are connected to the doup harness.

Leno harnesses are made up of two ordinary harness frames. The standard has special heddles containing two eyes and the doup harness has a series of worsted loops which must be drawn through the two eyes of the standard heddles. It should be remembered that the doup harness may be raised when the standard is down, but the standard must never be raised when the doup is down, otherwise worsted doups may be strained or broken. The doups may be spaced so as to form a fancy pattern.

Looms must also be equipped with special motions if they are to weave leno fabrics. A slackener motion is necessary to ease the strain on the doup ends when the standard and doup harnesses are raised and the back harnesses are down. There is also a mechanism called a jumper which is attached to the dobby. These motions may be securel from the loom builders. At the present time, the majority of leno fabrics are being woven on patented steel doup or leno heddles which are superior to the old-style worsted doups. These may be secured from the heddle manufacturers.

Formulas Desired For Cloth Calculations

Technical Editor:

I would appreciate the following information:

1. **Given a construction of cloth, for example 39-in., 80 x 80, 4.00 yd. per lb., what is the formula for calculating the average yarn number?**
2. **Given a 40-in. gray-width twill, 88 ends of 21/1 and 56 picks of 22½/1, what is the formula for calculating the yd. per lb.? (9074)**

I. The average yarn number = (No. warp ends + No. filling ends x Width of cloth in in. x yd. of cloth per lb.) ÷ 760

Substituting the example construction:

$(80 + 80 \times 39 \times 4) \div 760 = 32.84$s avg. no.

In this formula, 760 is used as standard instead of 840 (yd. per hank) to allow for the contraction in length and width during weaving and for the size added at the slashing process. Ap-

AS SEEN IN LIFE

★ARALAC divides the honors equally between the lolly-pop and the teen-age set in the first two advertisements in its Fall-Winter, 1945, series in Life Magazine.

IT'S ★ARALAC!
Young fry fashion: a frock of Windsor's Aradown...cotton and ARALAC Tattersal check...
wearable and washable...a wonderful fabric!
★ T. M. Reg. U. S. Pat. Off. by ARALAC, INC., a division of NATIONAL DAIRY PRODUCTS CORPORATION.

IT'S ★ARALAC!
Emily Wilkens designs exclusively for the teen-age crowd . . . and here's her newest: lounging pajamas of Twilltour, a Mallinson fabric of rayon and ARALAC.
★T. M. Reg. U. S. Pat. Off. by ARALAC, INC., a division of NATIONAL DAIRY PRODUCTS CORPORATION.

ARALAC, INC.

71 Vanderbilt Avenue • New York 17, N. Y.

ARALAC, produced by a division of NATIONAL DAIRY PRODUCTS CORPORATION, represents but one of the many contributions this nationwide organization is making toward the more efficient utilization of America's agricultural resources.

★T. M. Reg. U. S. Pat. Off.

PSYCHOLOGY APPLIED TO WASHROOM DESIGN

A TYPICAL EXAMPLE . .

As Recommended by the Country's Foremost Architects

Factory employees have preconceived ideas of washroom standards based on home facilities. These ideas add up to a picture of cleanliness, convenience and sanitation. Anything less than this creates disappointment which is revealed in dissatisfaction and carelessness. This reaction occurs in all cases where inadequate employee facilities exist, but is especially noticeable in such a personal matter as washrooms.

For *many* years, leading architects have recognized the human side of production by recommending only the most modern wash facilities in all remodeling, expansions and new constructions. Specifications have invariably called for Bradley Washfountains, America's accepted group washing fixture.

Bradley's claim to preference is credited to many unusual features: One Bradley does the work of 8 to 10 "single-person" wash basins; piping connections and plumbing fixtures are reduced by 80%—16 to 20 faucets are eliminated. Records also reveal a 70% reduction in water consumption; savings of valuable space and a worthwhile promotion of cleanliness and health.

For interesting information on how to Apply Psychology to Washroom Design, write for Bradley Catalog 4308 and Washroom Survey Sheet to help you make preliminary plans. BRADLEY WASHFOUNTAIN CO., 2325 W. Michigan Street, Milwaukee 1, Wisconsin.

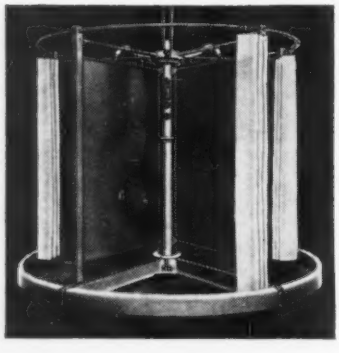
BRADLEY *washfountains*

Write today for Catalog 4308 and Washroom Survey Sheet.

Bradley circular 5-Stall Shower with receptors: for installation on any kind of floor including wood. Both 3- and 5-Stall Showers can be supplied with or without receptors as desired.

MULTI-STALL SHOWERS

Safe—Sanitary—Economical



Multi-Stall Showers apply the Bradley idea of group washing—and being shipped partially assembled can be installed readily in either new or existing buildings. One 5-Stall Shower unit requires only three plumbing connections compared to the fifteen required for five ordinary showers. *For further details, see Catalog 4308.*

BRADLEY *multi-stall showers*

proximately the same result would be obtained if 840 were used and 9½% added for contraction and size.

II. The calculation for yards per pound looks rather formidable but is quite simple if taken step by step as simple arithmetic. The textbook formula contains seven equations, but reduced to its simplest terms it is as follows:

1. [No. warp ends x cloth width + extra selvage ends) ÷ (840 x warp count)] + 10% contraction and size = wt. of warp per yd. of cloth.
2. [(No. filling ends x cloth width) ÷ (840 x filling count)] + 5% contraction = wt. of filling per yd. of cloth.
3. 1 yd. of cloth ÷ (wt. warp + wt. filling) = yd. per lb.

Applying the construction quoted, and assuming that 16 extra selvage ends were added to each selvage:

1. [(88 x 40 + 32) ÷ (840 x 21)] + 10% = 0.2214 lb.
2. [(56 x 40) ÷ (840 x 22.6)] + 5% = 0.1249 lb.
3. 1 ÷ (0.2214 + 0.1249) = 2.89 yd. per lb.

This 2.89 yd. per lb. is not given as correct for this construction because the number used for the extra selvage ends is only a guess, since that factor was not specified in the description.

You will note in step 1 that the first factor (warp ends x width + extra ends) yields the total number of warp ends. In step 2, the first factor (filling ends x cloth width) yields the total inches of filling in 1 in. of cloth. Two calculations are omitted at this point in both equations; namely, x 36 in. per yd. ÷ 36 in. per yd. This converts the number of warp ends and the filling per in. to the yards of warp or filling per yd. of cloth. Since x 36 ÷ 36 cancel each other in value, the answer remains the same but the designation changes. The 840 x count, of course, gives the number of yards per lb. of that yarn.

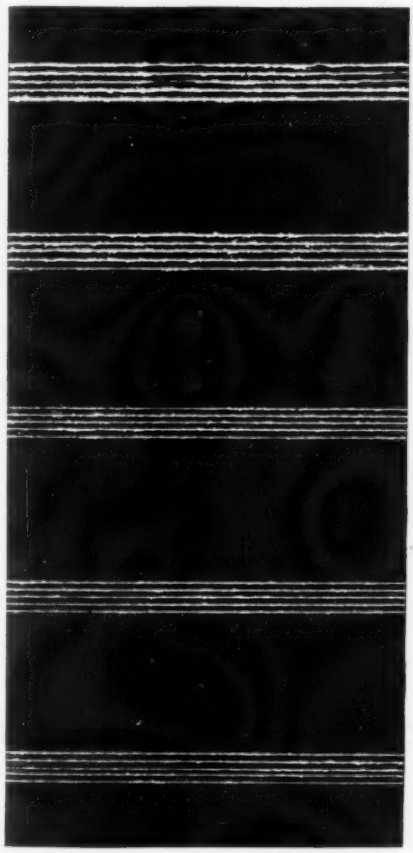
Maid of Cotton

The 1946 "Maid of Cotton" will be named on Jan. 7, according to the Memphis Cotton Carnival Association. Entries must be made by Dec. 22. The association expects to have a building on the Mid-South Fair Grounds from which to direct its activities, according to negotiations now being made. Date of the carnival will soon be decided upon.

RAYON REPORTS

Published Monthly by American Viscose Corporation, New York, N. Y. NOVEMBER, 1945

FINER YARNS MADE POSSIBLE WITH NEW 1.0 DENIER STAPLE



14/1 cc. Principal uses: Drapery goods, upholstery, summer suitings, towels, seat coverings, tablecloths, women's sport fabrics, blankets, half hose. Spun from any rayon staple from 1.0 to 5.5 denier.

24/1 cc. Principal uses: Men's and women's suitings, sport shirtings, upholstery, diapers, towels, flannels. Spun from any rayon staple from 1.0 to 3.0 denier.

50/1 cc. Principal uses: Printed and plain dress fabrics, blouses, bedspreads, jacquard draperies, scarfs, children's dresses, underwear, lingerie, shirtings, decorative suiting yarns. Spun from any rayon staple from 1.0 to 1.5 denier.

70/1 cc. Principal uses: Handkerchiefs, blouses, fine dress goods, crepes, pajamas, curtains, lamp shades, neckwear, glove fabrics, hosiery. Spun from any rayon staple from 1.0 to 1.25 denier.

100/1 cc. Principal uses: Fine shirtings and dress goods, blouses, handkerchiefs, neckwear, evening dresses, laces, hosiery. Spun from 1.0 denier rayon staple.

In addition to the increased range of yarn sizes now made possible with AVC's new 1.0 denier rayon staples, remarkable new achievements are gained with them in the coarser yarns. Not only is a new soft touch in coarser yarns obtainable, but the coarser yarns possess added strength due to the greater number of fibers in yarn cross-section. An informative new booklet on both the 1.0 and 1.25 denier rayon staples will be mailed on request.

CURRENT AD TELLS SHIRT TROUBLES, ATTRACTS INTEREST OF LAUNDRIES

The latest of the series of ads by American Viscose Corporation in such publications as "Time," "Business Week" and "New Yorker" has drawn considerable interest from laundries. The illustration depicts devils symbolic of the various kinds of troubles a man's shirt encounters, from perspiration and ironing, to strong bleaches and strain. How rayon has been engineered to resist such bedevilment is emphasized. One large laundry has sought (and obtained) AVC's permission to reproduce the illustration in its own advertising.

MAKE USE OF 4-PLY SERVICE

1 PRODUCT RESEARCH
Helps you get the right yarn or fiber.

2 FABRIC DEVELOPMENT
Helps you design new fabrics.

3 TEXTILE RESEARCH
Helps solve production and finishing problems.

4 "CROWN*" TESTED
Helps provide scientific selling facts.

AMERICAN VISCOSE CORPORATION
America's largest producer of rayon yarns and staple fibers

Offices: 350 Fifth Avenue, New York 1, N.Y.; Charlotte, N.C.; Philadelphia, Pa.; Providence, R.I.; Washington, D.C.; Wilmington, Del.

Plants at: Marcus Hook, Pa.; Roanoke, Va.; Lewistown, Pa.; Nitro, W. Va.; Parkersburg, W. Va.; Meadville, Pa.; Front Royal, Va.

*Reg. U. S. Pat. Off.

AVC MOVIE OF RAYON MAKING IS RE-EDITED

A sound motion picture covering the manufacture of both viscose and acetate rayon has just been re-edited by American Viscose Corporation. Re-titled "How To Make Rayon," the new film gives a quick but thorough story of the manufacturing processes.

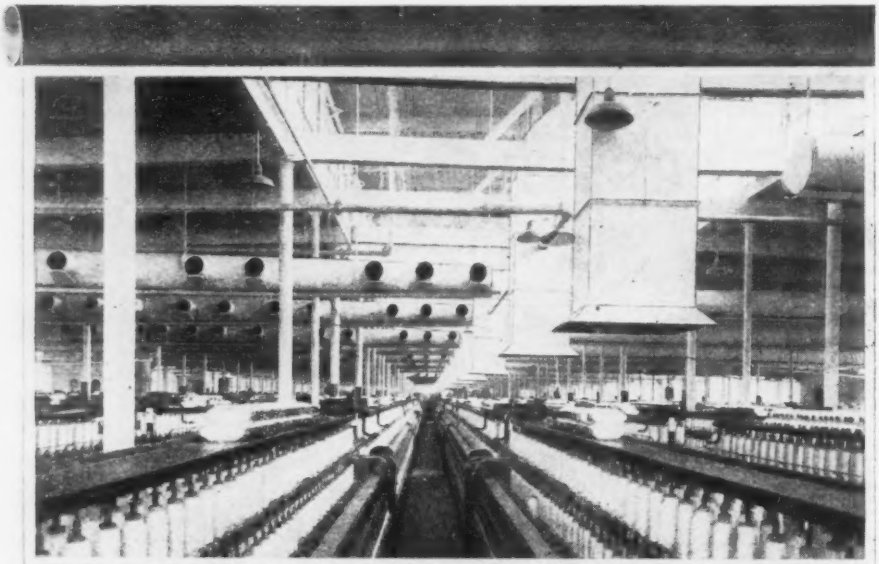
The picture is available at no charge for showings to interested groups. It is 16 mm. sound and runs 12 minutes.

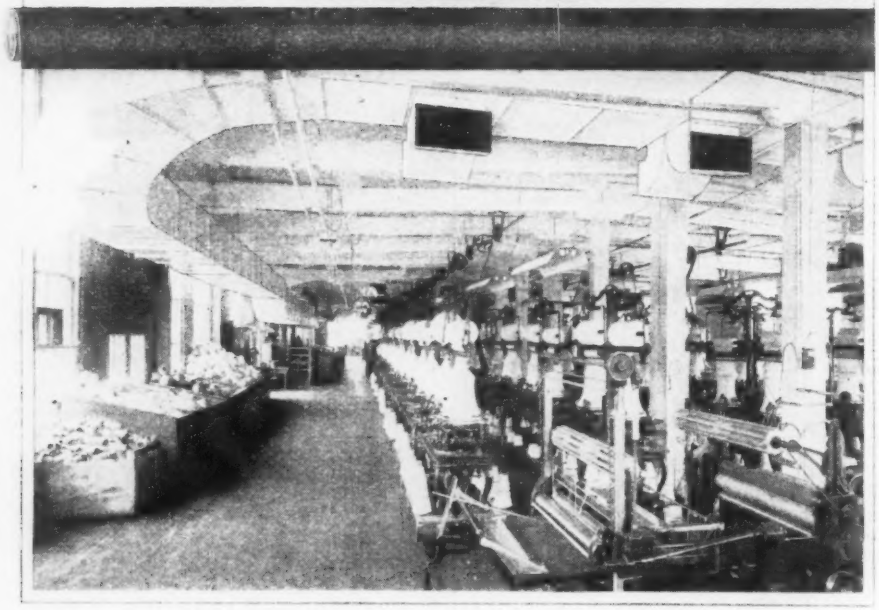
618 MANUFACTURERS SERVICED IN SEPTEMBER

The number of manufacturers receiving CROWN Tested fabrics entitled to wear the famous CROWN Tested labels, rose in September to 618. The September figure represents an increase of 29% over the average for the preceding three months.

ENGINEERED AIR CONDITIONING

ALL TYPES TEXTILE MILL INSTALLATIONS





Bahnson engineering, Bahnson equipment, and Bahnson textile experience of more than thirty years, is ready to develop a practical solution for any air conditioning problem, whether it concerns humidification, heating, evaporative cooling, refrigeration, dehumidification, electrostatic air cleaning, or in any combination desired—automatically controlled—and in either central station or individual unit type installations.

Bahnson System

POSITIVE CIRCULATION LOWER OPERATING COST

AIR CONDITIONING ENGINEERS

THE BAHNSON CO. WINSTON-SALEM, N. C.

886 DREWRY ST. ATLANTA, GA. | 93 WORTH ST. NEW YORK CITY | 553-S. FIGUEROA ST. LOS ANGELES 13, CAL. | 703 EMBREE CRESCENT WESTFIELD, N. J. | W. J. WESTAWAY CO., LTD. HAMILTON, ONTARIO

Apprentice Training

(*Continued from page 145*)

and other materials, much use should be made of experiments in testing and other laboratory practice.

CHART SHOWS PROGRESS. The course which the apprentice knitting-machine fixer is to pursue should be set up in terms of a normal (but not invariable) sequence of work stations to which the apprentice will be assigned. Titles of these work stations will be set at the head of the columns across an apprentice progress chart. The first vertical column of this chart will contain the name and date of entrance of each apprentice. When a new apprentice enters, his name is added to the list. When an apprentice begins an assignment in any work station, an entry is made on the chart opposite his name and in the column of the assigned work station to signify that he has begun that unit of training. When he has completed satisfactorily all the prescribed work of the unit, the entry is extended to indicate such completion, and he is assigned to another work station.

For each work-station assignment, a list should be prepared of each manipulative skill or work process which the apprentice is to master. This list should be arranged in suitable learning order which the apprentice is to follow. The training sequence may be simply a rearrangement of the original list of work processes. The items of related or technical information, which will be carried with the list of work processes, will then fall into groups according to the work-station assignments, and the related-work instructor can readily see what topics each apprentice should be studying at any time. The instructor will arrange the study topics for each work-station into a suitable study sequence. The work-station assignments need not be done in the exact order as listed. When the progress chart shows completion of all assignments by any apprentice his training may be considered as finished.

The success of this program will hinge largely on the selection and training of competent instructors. The director of apprentices, the related-course instructors (who may be foremen and key fixers), and the on-the-job instructors should all be given a brief course in the art of instruction. Here, the State Department of Vocational Education will take over and put on the instructional course.

Selection of well-qualified candidates for apprentice training is of prime importance. Utilization of the best per-

1,415,853,000,000
CUBIC FEET OF GAS

*used industrially and commercially in year**

Prove

The Trend is Definitely to GAS

FOR over thirty years, the records show there has been an increasing trend to Gas for all industrial and commercial heat requirements. The last ten years have been most spectacular, use of Gas in these fields having doubled. The twelve months ending June 30, 1945 saw the staggering figure of ***one trillion, four hundred fifteen billion, eight hundred fifty-three million cubic feet of Gas*** consumed by industrial and business establishments.

Nor was this due to war demand alone, for a large percentage of this ten year growth was attained before hostilities opened. Reasons for this wide acceptance of Gas by production managers and executives is seen in the merits of this modern fuel and the great advances made in scientifically designed Gas equipment.

The characteristics of Gas that make it so desirable to industry and business include its speed, economy in unit and overall costs, its precise automatic control, its cleanliness and dependability.

The story of the many advantages of Gas and the data on the specific type of heat transfer equipment that will do the best job for you is available from the Industrial Engineer of your local Gas Company, liaison man between America's far flung Gas Industry and you.

For 12 months ending June 30, 1945. Figures do not include Natural Gas sold for generation of electricity.

AMERICAN GAS ASSOCIATION

Industrial and Commercial Gas Section

420 Lexington Avenue, New York 17, N. Y.

THE TREND IS TO GAS

FOR ALL INDUSTRIAL HEATING

THERE'S as much chance for water to penetrate Fibreen as to soak through the feathers of a duck. Hair pins or housing gears . . . baby buggies or bowling alleys . . . big shipments . . . little shipments . . . look alike to Fibreen when it comes to perfect protection in shipping . . . from water, dirt, dust and rough handling.

Fibreen reenforced paper is as flexible as a cord yet tough as cow-hide. It is acknowledged as the best of all by industry for any kind of wrapping job . . . small or large.

If you haven't used Fibreen to guard your goods en route to destination, by all means write today for a life-sized sample and case histories of how other manufacturers have used it.

Fibreen has "dived" into many a tough shipping problem and "come up" with the right answer.

Sisal-fibre reenforcement for strength . . . special asphalt for water-proofness . . . kraft paper for clean, easy handling . . . sealed by heat and under pressure to produce Fibreen.

THE SISALKRAFT CO.
205 W. WACKER DRIVE · CHICAGO 6, ILL.
NEW YORK · SAN FRANCISCO · LONDON · SYDNEY
In Canada Write to Alexander Murray & Co., Limited, at Montreal · Toronto · Halifax · Saint John · Winnipeg · Vancouver

Manufacturers of SISALKRAFT, FIBREEN, SISAL-X, SISALTAPE AND COPPER-ARMORED SISALKRAFT

sonnel practices and available aptitude tests is indicated.

ADVANTAGES OF PLAN. Some of the advantages we at Holeproof hope to gain by apprenticeship training are:

For Management: An adequate supply of well-rounded craftsmen and a backlog of potential supervisors.

For the Apprentice: Sound training under a planned program; well-rounded job experience; adequate classroom, laboratory, and theoretical instruction; national certification as a journeyman; and opportunity for advancement.

For the Returning Veteran: An opportunity to participate in an approved training program and acquire a skilled trade, while receiving a subsistence allowance under the GI Bill of Rights.

Blotch Printing

(*Continued from page 119*)

ager removes many difficulties which crop up during the continuous passage of cloth over metal rollers. The latter type of machine, however, has been greatly improved; and the cloth is carried through the machine with the minimum of tension.

Steam is supplied to the ager chamber either directly from the boiler and in conjunction with steam generated from a water bottom, or else primarily from the water bottom heated by closed steam coils. Whichever method is used, the aim must be the optimum conditions just mentioned.

Many other factors enter into the ageing of vat prints, such as the use of a gray-cloth for keeping the temperature down, the avoidance of uneven pressure in the ageing chamber, overheating due to chemical reaction and the latent heat of vaporization of steam, etc. These all must be kept under control if levelness of color is to be obtained.

DEVELOPMENT. Development or oxidation is carried out preferably in the open-width. With spun-rayon fabrics, it is necessary to avoid excessive tension during this passage, the arrangement of the open-width washer being adjusted accordingly. Bichromate, sodium perborate, and hydrogen peroxide solutions are all used. About $\frac{1}{8}$ to $\frac{1}{4}$ oz. per gal. of bichromate or perborate is used with a slight addition of acetic acid in the case of bichromates or peroxide. Temperatures may vary from 120° to 140° F.; but should not, as a rule, exceed the latter limit unless in exceptional circumstances. An addition of sulphonated fatty alcohol to the bichrome bath will promote

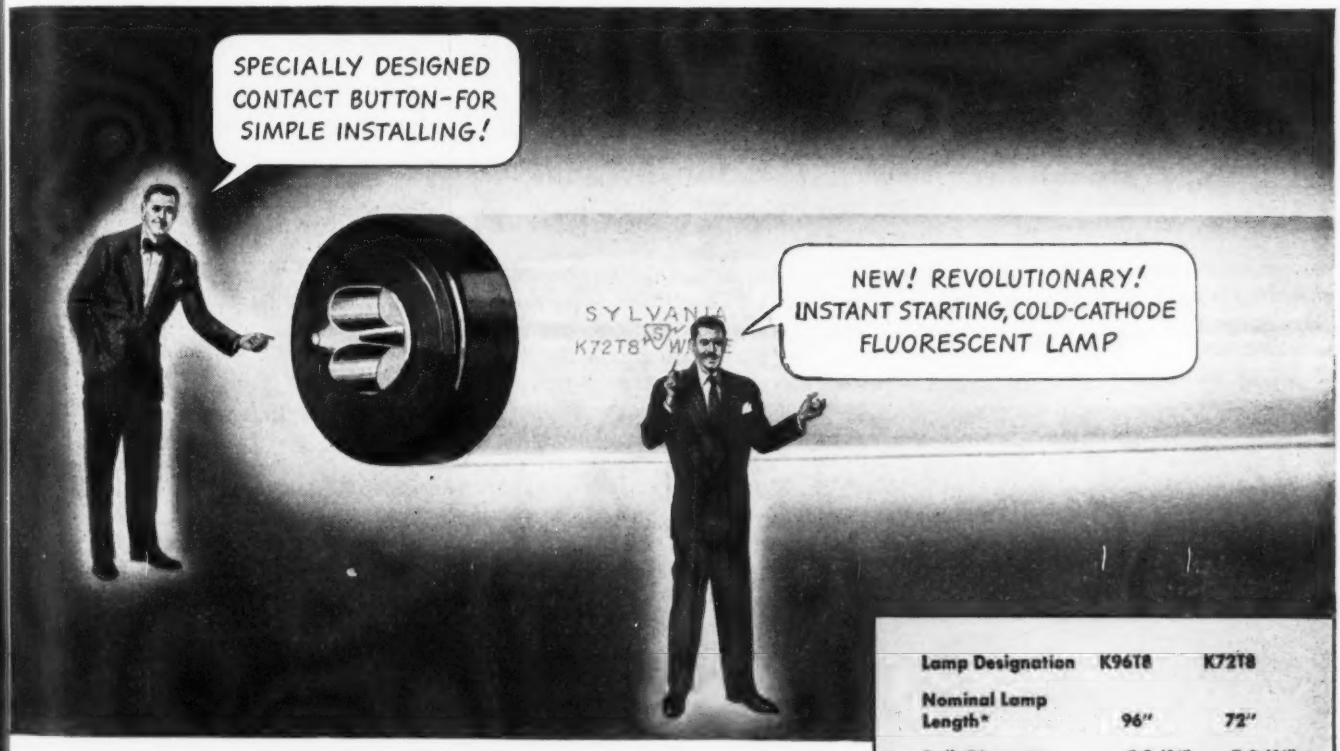
SYLVANIA NEWS

TEXTILE EDITION

NOV. *Published by* SYLVANIA ELECTRIC PRODUCTS INC., Salem, Mass. 1945

FIRST INSTANT START, COLD-CATHODE FLUORESCENT (K) LAMPS WILL HELP CUT MAINTENANCE COSTS

LONG-LASTING LIGHTING PUT ON STANDARD PRODUCTION BASIS



The newest of Sylvania Electric's developments—the K Fluorescent Lamp—marks one of the broadest, most revolutionary steps yet made in the lighting field.

Textile plants, in particular, will be interested in the following special advantages of these lamps:

1. Because they will be *instant starting* and will have *a rated life of 10,000 hours*—virtually *unaffected by the frequency of on-and-off operation*—they are especially suitable for places where maintenance is either difficult or costly.

2. For further simplification of installation and maintenance, the base of the new lamp has a *specially designed contact button* made to fit its lampholder (punched with a hole of similar design) in order to prevent lamps that might look like the K lamp from being inserted into the circuit.

These Sylvania cold-cathode fluorescent (K) lamps will be placed on a standard production basis. They will be available early in 1946 through the usual distribution channels, will be made in 72" and 96" lengths of 1-inch (T8) diameter, and will come in the standard white color. Soft white, daylight and a wide variety of other color lamps will be added gradually.

Lamp Designation	K96T8	K72T8
Nominal Lamp Length*	96"	72"
Bulb Diameter	T-8 (1")	T-8 (1")
Lamp Current, Milliamperes	120	120
Life Expectancy, Hours	10,000	10,000

*Measured from back to back of the two lampholders.

For further information about the newest of Sylvania's developments—the K Fluorescent Lamp—instant starting, cold-cathode, long-lasting—write Sylvania Electric Products Inc., Salem, Mass.

SYLVANIA ELECTRIC

MAKERS OF FLUORESCENT LAMPS, FIXTURES, WIRING DEVICES; ELECTRIC LIGHT BULBS; RADIO TUBES; CATHODE RAY TUBES; ELECTRONIC DEVICES

Because of their Better Quality

LUNKENHEIMER VALVES

cost us LESS per Year of Service!

In buying a valve, as in buying anything else, it's *value* you're really after.

What is the measure of valve value? Length of service life, efficiency of performance, time and expense required for maintenance . . . these are the principal factors.

In these and in all other elements of value, Lunkenheimer Valves have proved their superior worth throughout American industry, in wartime as in peacetime. Maintenance men everywhere rely implicitly on these *better valves* because they know they are *better values—quality-built* in every detail, assuring longer and more efficient service with the very minimum of maintenance trouble and expense.

For Better Valve Values, Specify Lunkenheimer!

THE LUNKENHEIMER CO., Cincinnati 14, Ohio, U. S. A.
Offices: New York 13, Chicago 6, Boston 10, Philadelphia 7.
Export Department: 318-322 Hudson St., New York 13, N. Y.

Your LUNKENHEIMER Distributor

Lunkenheimer Distributors are located in the principal industrial centers. There is one near you fully equipped to assist with your maintenance and operation problems. Call on him.

BRONZE, IRON, STEEL, AND CORROSION RESISTANT ALLOY VALVES—AIR DEVICES, LUBRICATORS, AIRCRAFT FITTINGS

easy rinsing and serve to prevent the formation of insoluble soaps during the following soap passages.

Peroxide and perborate baths are preferable where white grounds are involved and especially with vat blues, which are easily over-oxidized. Shirting styles and white-ground handkerchief prints are instances where clear, white grounds are especially desirable.

For blotch prints, perborate or peroxide baths should be adhered to as much as possible, as the scouring action of these baths is much greater than bichromate baths. The danger of some degree of fixation of thickenings by passage through the bichromate solutions in conjunction with subsequent soap treatment is a possibility which cannot be entirely discounted. At least, the removal of the thickenings is not helped by this type of oxidation; and the possibility of the formation of insoluble metallic soaps is always there. Finally, thorough soaping at the boil with strong soap solutions is an absolute necessity for the production of clean, clear, and level colors.

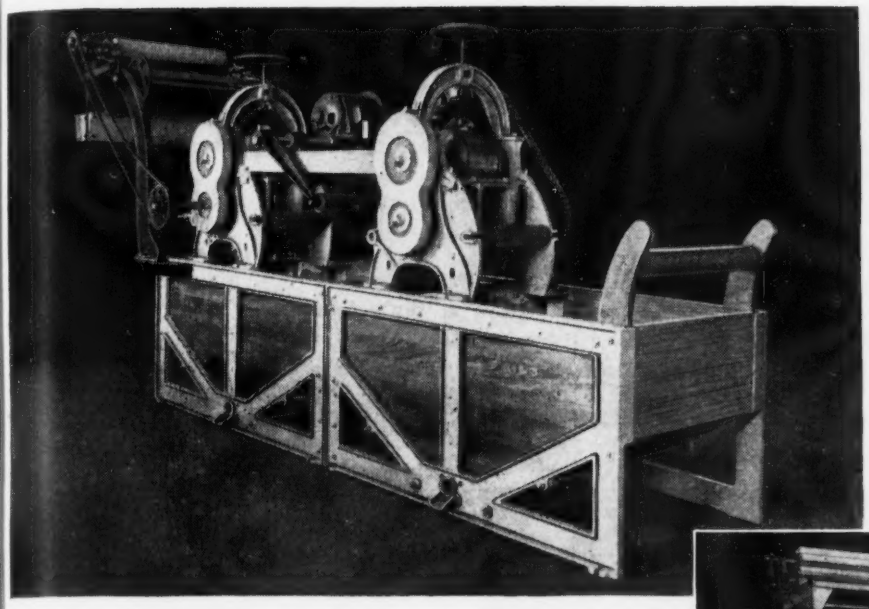
Air Conditioning

(*Continued from page* 131)

ing is performed on internally-heated forms.

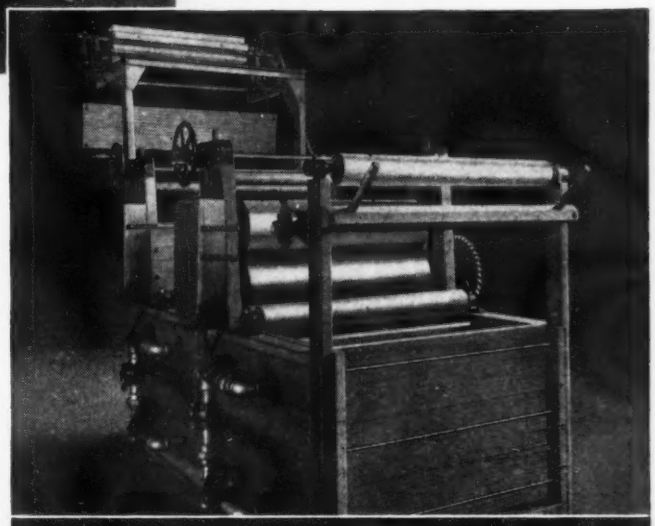
If all the drying is done in a drybox, where the heat is confined and more or less independent of the atmosphere of the room, the evaporative cooling method may be employed without interfering with moisture evaporation from the goods on the forms. In either case, it is better and more economical to exhaust the hot air and vapor from the drying apparatus rather than filter and recirculate it as is the custom in other departments. Since the hot air and vapors are drawn out near the top of the room, the cool air coming in near the floor stimulates rapid circulation.

The cleverest arrangement for removing steam vapor and hot air from internally-heated boarding forms this writer has seen is shown in the accompanying illustration. It will be noticed that hoods are suspended over each table of forms. Each hood is connected by a short vertical duct to a main duct which draws out the vapor and hot air. This not only creates a partial vacuum which is quickly replaced with conditioned air at the right humidity, but also it keeps lint and grime from accumulating. The boarders are likely to have better air to breathe. If working conditions can be made tolerable in the summer, the periodic migration of boarding-room workers may be checked.



MODEL C HIGH PRODUCTION SOAPER

TANDEM ROPE SOAPER

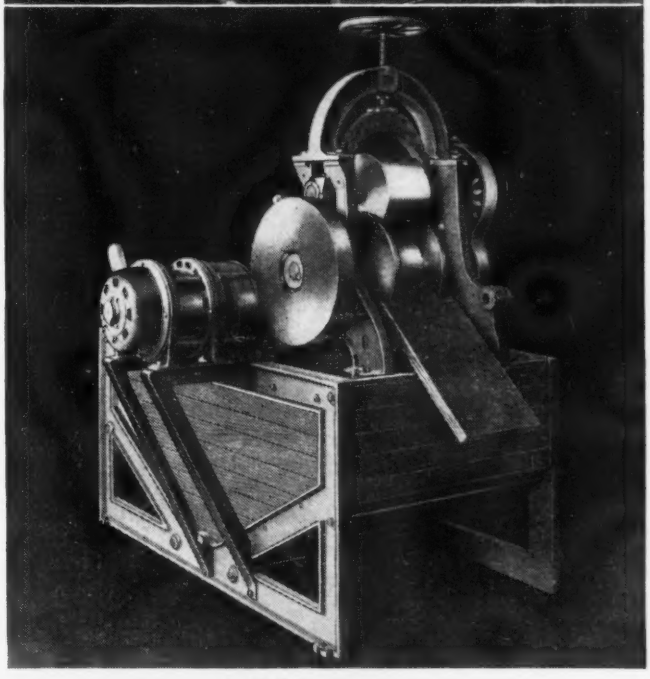


There is a *Hunter Soaper* for any production requirement

The Hunter Model C High Production Soaping Unit has a main tank of 3″ cypress, 42″ wide x 3′ deep x approximately 9′ long. It is equipped with two sets of pressure rolls, one 36″ face, the second set somewhat narrower. Machine is equipped with slotted partition inside of tank to permit counterflow of soap and is equipped with all necessary spreader bars, carrier rolls and folding device. It is driven through 5 H.P. motor and speed reducer.

The Hunter Tandem Rope Soaper is designed for mills whose productive requirements are slightly less. This machine is made with sturdy cast iron frames and two cypress tanks. Top and bottom pressure rolls are furnished in two sets and are fabricated from cast iron. Top roll pressure is through springs and handwheels and the idler rolls are wood. Machine is driven through two speed reducers, a variable speed and two 2 H.P. motors. Machine may or may not be equipped with Folder as customer desires.

The Single Hunter Rope Soaper is capable of accommodating approximately six to ten Rotary Fulling Mills. Tank proper is constructed from tongued and grooved lumber designed for wet work. Main rolls are cast iron, top and bottom, and roll pressure is through handwheels and springs. The carrier rolls are made of wood and the machine may or may not be equipped with Folder as desired. Main drive is through 2 H.P. front gear motor or through a pulley reducer.



SINGLE ROPE SOAPER

JAMES HUNTER MACHINE CO.

NORTH ADAMS, MASSACHUSETTS, U.S.A.

FOUNDED 1847

DARNELL

CASTERS & WHEELS

For light or heavy duty service Darnell Casters and Wheels are made for a long life of trouble-free usage, to protect floors and increase employee efficiency.

DARNELL CORP. LTD.
LONG BEACH 4, CALIFORNIA
60 WALKER ST., NEW YORK 13, N.Y.
36 N. CLINTON CHICAGO 6, ILL.

Knitting Yarns

(*Continued from page 110*)

place smooth plates horizontal to the picker sides near the last cage delivery to decrease the width of the lap. This makes a heavier lap selvage to aid in preventing lap splitting.

Soft or hard laps result from improper humidity in the blending and picker rooms. At standard conditions of 65% r.h. at 70° F., wool yarn has a moisture regain of 13%, while cotton yarn has only 7%. Consequently, at all stages of manufacturing, the wool in the blend has almost twice as much moisture as the cotton.

Some mills have attempted to run cotton and wool blends under the erroneous idea of high humidity being desirable. The results in operation were lap pins being hard to pull, card screens choking up, and drafting rolls lapping.

The best policy in regard to humidity would be for the mill to begin with the same settings used for cotton; and if static and excessive fly or lapping rolls indicate low or high humidity, experimental corrections should be made until the proper control settings for that mill are found.

CARDS. Since wool fibers are coarser than cotton fibers, card-clothing wire should be coarser. However, some of the disadvantage of fine wire can be offset by slower card speeds and wider settings of the carding parts.

Solid screens, with a lengthwise slot optional, but preferred, should be used on the card. Mote knives should be set not closer than 0.012 in.; and the flat settings should be widened to a point between 0.010 to 0.020 in. to deliver a good web, as free of neps as practical, with a minimum of flat strips.

It is not likely that a mill will be able to card more than 7 to 10 lb. per hr.; and at this speed, the flats should be slowed to about 1 in. per min. The front plate should be set to remove only enough strip to remove very short fibers and to prevent too many neps.

DRAWING. The important points to consider at the drawing processes are: (1) production speeds, (2) roll settings, and (3) humidity.

Here, again, the details will depend upon the end product. As the percentage of wool in the blend is increased, the tendency in manufacturing must be toward lower speeds, wider roll settings, and lower humidity.

In a 50-50 blend of medium quality, drawing delivery speeds should be about 100 ft. per min. As the blend

FOR YOUR INFORMATION....

Human Handbooks of Bearing Data

FOR MORE THAN 50 YEARS, Hyatt engineers have been literally "walking encyclopedias" of bearing information for manufacturers of machines and equipment, and their designers.

During this time these men have accumulated a tremendous fund of technical knowledge of the application of Hyatt Roller Bearings. In this vast reservoir of experience, there may already be solutions to the mechanical obstacles that you encounter in the products you are developing or improving today. Even if there has not been a problem to parallel yours, these highly skilled specialists are more than likely to bring up the right answer...one that will contribute to both operation and less costly designs.

Consultation with Hyatt engineers is easy to arrange, involves no obligation. They are glad to come to you in a spirit of interested helpfulness and proud of the opportunity to work constructively with you in the selection of proper bearings for your products. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT ROLLER BEARINGS

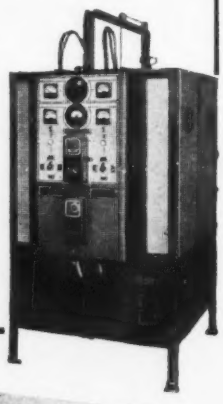
ACCELERATED TESTING
for WEATHERING and FADING with
ATLAS-OMETERS

Twin-Arc
WEATHER - OMETER
Test Results Twice As Fast

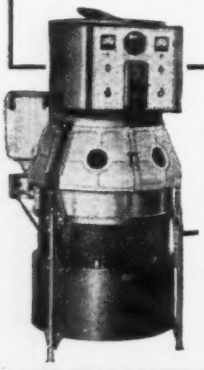
The new Atlas Twin-Arc Weather-Ometer has been developed to save time where speed in testing is essential.
Where Federal Specifications call for a definite number of testing hours in the Atlas single arc Weather-Ometer, this time can be cut in half in the Atlas Twin-Arc.

Exclusive Atlas Twin-Arc Weather-Ometer features:

1. Temperature control.
2. Unlimited range and control of Light and Water Spray Periods.
3. Adjustable and automatic timing.
4. Insulated test chamber.
5. Operates continuously 24 hours without manual attention.
6. Carbon cost 28c per day.
7. Full automatic—Safe to operate unattended overnight.
8. Control panel contains Volt and Ammeters—Time Meter—Light and Water Cycle switch — Automatic time cut off switch — Voltage adjusting switch — Direct reading thermal regulator —Reactance Coil (cut power cost in half).



The Single Arc Model is a popular machine where high speed is not required.



FADE-OMETER

The recognized standard machine of the textile trade for determining the light-fastness of materials. Specimens are rotated around the Atlas Enclosed Violet Carbon Arc — the closest approach to natural sunlight. Temperature of the filtered air is automatically controlled. Proper humidity is furnished by evaporation from a constant-level water reservoir. Available with a wide variety of specimen holders and exposure masks.

• Originators and sole manufacturers of accelerated testing devices for a quarter of a century. Fade-Ometer, Weather-Ometer, Launder-Ometer are used all over the world as accepted standard testing machines.

ATLAS ELECTRIC DEVICES CO., 361 West Superior St., Chicago 10, Ill.

Why Not? *Have Your* PERSONAL ACCIDENT *and* HEALTH INSURANCE *with . . .*

EASTERN
COMMERCIAL TRAVELERS

Mutual Association • Direct Purchase

No Branch Offices

Massachusetts Company, Incorporated 1894

Insure Your Earnings . . . Protect All

ACCIDENT POLICY PAYS		SICKNESS POLICY PAYS	
$5,000.00-$10,000.00 FOR ACCIDENTAL DEATH	$25.00-$50.00 FOR WEEKLY DISABILITY	$25.00 PER WEEK FOR CONFINING SICKNESS	$10.00 PER WEEK FOR NON-CONFINING SICKNESS
Estimated Annual Cost $15		Estimated Annual Cost $20	

MORE THAN 50 YEARS OF UNFAILING SERVICE

Provides protection 24 hours a day when traveling, while at work, around the home or on vacation

NO POLICY CANCELLED OR RATES INCREASED OR BENEFITS REDUCED ON ACCOUNT OF ADVANCED AGE!

SEND THE COUPON TODAY →

John S. Whittemore, Sec.-Treas.
Eastern Commercial Travelers
80 Federal St., Boston

Without obligation, please send complete information and application for membership to

Name .....

Address .....

City ..... State .....

T.W. 45 (No Solicitors Will Call)

varies and the end product approaches the characteristics of an all-cotton or all-wool yarn or fabric, this speed should be respectively raised or lowered.

Normally, wool is processed with slightly wider roll settings than cotton, but the mill would do well to begin with the same roll settings and weights, unless the blend were predominantly wool, and experiment until the best settings are found for its particular manufacturing conditions.

Trumpets on the drawing frame should be as small as practicable in order to condense the wool and cotton sliver. Wool has a greater tendency to "puff" than cotton; and since the sliver is weaker than an all-cotton sliver, compactness is desirable to give strength when the sliver is being pulled from the can.

Because of this weakness and bulkiness of the sliver, card and drawing frame coilers should be adjusted (probably speeded up) so that a free unbound coil is laid in the can. This will relieve some tension on the sliver and prevent elongation as it uncoils.

ROVING AND SPINNING. The same points of speeds, roll weights, and humidity apply to roving and spinning frames as to drawing. It is not likely that long-draft frames will require any adjustment to the roll settings but if the mill is using short-draft frames, the same procedure should be followed in regard to roll settings as on the drawing frames.

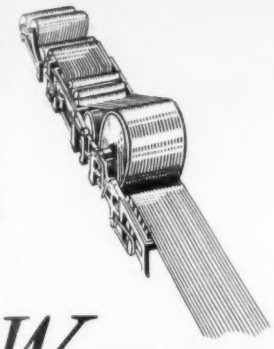
It should be borne in mind that the wool fiber is not straight and convoluted as the cotton fiber. It is wavy and springy. Because of this characteristic, drafting should be done more slowly and somewhat more conservatively than drafting of cotton.

A draft of 16 to 18 for spinning is generally recommended for a 50-50 cotton and wool blend, providing roving has been properly prepared and the fibers are uniformly blended. If this draft results in poor spinnability the previous processes should be checked carefully before the spinning draft is changed.

More twist will be required for the blended knitting yarns than for comparable cotton yarns of the same numbers. Only by a combination of twist and lubrication can the springy wool fibers be held in place in the yarn. On many blends, the reduction of speed which results from increasing the twist will be sufficient for good spinning. Other blends will require an additional speed reduction.

LATER PROCESSES. Spooling, or single-end winding, when the mill sells its knitting yarns, will ordinarily pre-

(Continued on page 211)



● When Columbus discovered this continent he was seeking a new trade route to India—home of beautiful printed cotton cloth. Although these natives did not produce these fine fabrics, they did cultivate cotton and could weave sufficiently to produce fish nets, breeches, mantles and cloth.

Today—the modern weaver has Staley Textile Starches to accurately control the weavability, weight and finish of his products. Highly trained Staley chemists keep constant watch to guarantee the uniform quality and consistent, dependable performance of every shipment. Staley's complete line of thick and thin boiling starches is processed under this strict laboratory control. If you are not a Staley customer—now is the time to get acquainted with our prompt service and complete cooperation.

Weavers of the West Indies...

Number Six in a series published as a Tribute to the Development of Weaving through the centuries.

In 1492, when Columbus landed in the West Indies the natives brought skeins of cotton thread to use in barter.

Staley's CORN AND SOY BEAN PRODUCTS

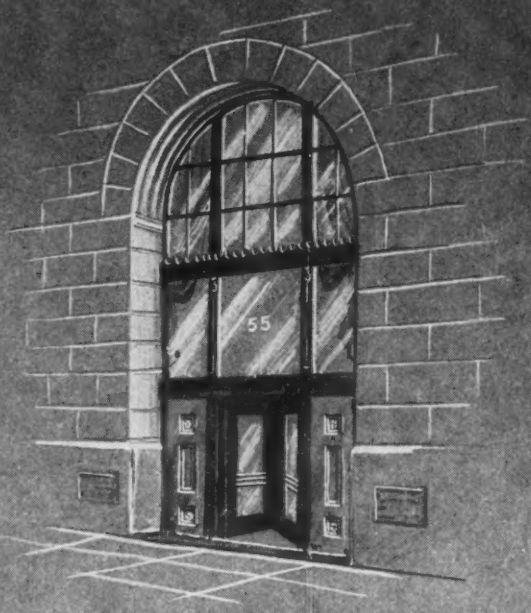
STALEY STARCHES

A. E. STALEY MANUFACTURING COMPANY

DECATUR, ILLINOIS

ATLANTA · SPARTANBURG · PHILADELPHIA · SAN FRANCISCO · DALLAS · CHICAGO · NEW YORK · BOSTON

Copyright 1945, A. E. Staley Mfg. Co., Decatur, Ill.



TEXTILE BANKING COMPANY

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

(Continued from page 208)

sent only two problems; and each of these has a simple solution.

1. The blended yarn cannot be spooled or wound at the same rate of production as cotton because of the lack of strength. Consequently, unless the machines are slowed down to compensate for this condition, the end breakage and automatic-spooler throw-outs will be excessive. A new set of standard speeds should be set up for the blended yarns.

2. Excessive stripping of wool fibers will result at the slub strippers and yarn guides unless precautionary steps are taken. In most cases, it will be found that the amount of oil sprayed on the wool at the opener or picker which gives the best manufacturing results will be insufficient for the spooling or winding operation.

Two methods for further condensing the loose ends of the wool fibers to make a smooth knitting yarn are used at the spoolers or winders. A small cake of wax may be placed between the tension device and the yarn guide, and the yarn allowed to run over it; or if desired, two cakes may be placed together, and the yarn run between them. A thin film of the wax is removed by the thread and acts as a binder for the loose fiber-ends.

Another method is to run the yarn through a conditioning emulsion. The emulsion serves as a binding agent similar to the wax above.

Far East Textile Mills

(Continued from page 147)

expected that the war reparations will be in commodities and not in money.

The revival of Japanese sericulture is, of course, expected. It is hoped, said the *Nippon Times*, that this industry will assume an important position in the basic economy of new Japan, especially in the field of exports. The view prevalent among Japanese silk industrialists is that instead of exporting raw silk it should be processed and exported as finished products to take the form of reparations commodities.

Keiji Ishihara, managing director of the Gumma Prefecture Textile Manufacturers' Control Association, was asked what are the facilities for the manufacture of silk at present.

HAS 70% OF ITS SILK LOOMS. In reply, he said, "A little over 30% of the looms were commandeered under the Metals Collection Regulations which came into effect the early part of 1942. In comparison with Fukui, a rayon producing center, which suffered from the ravages of war, the equipment of the silk-textile producing areas such as

KNOW AND PLAN WITH PQ SILICATES

The catalog of PQ Silicates of Soda includes liquids, solids and powders, which range from $3Na_2O.2SiO_2$ to $Na_2O.3.9SiO_2$. This variety is worth remembering because of the properties valuable to textile processing.

For instance, sodium metasilicate. Have you the facts of its detergent qualities! Bulletin No. 466, mailed free on request, brings them to you. Here are two textile uses:

KIER BOILING: Metso improves mote removal and produces whiter goods.

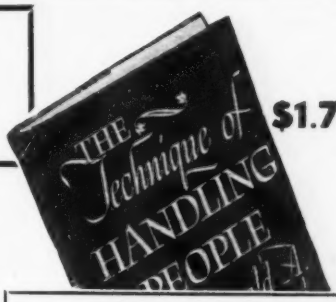
RAYON SCOURING: Metso solutions effectively emulsify grease and oil, insuring more goods with "A" ratings.

Make use of PQ's Silicate of Soda information service. It's a time and money saver.

PQ SILICATES OF SODA **metso**

PHILADELPHIA QUARTZ CO. • Dept. A, 127 S. Third St., Phila. 6

Do people like you *instinctively?*



$1.75

Do you know how easy it is to exercise the qualities that impress people favorably, that lead them instinctively to give that extra ounce of loyalty, cooperation, and effort to your ideas and orders?

To win the rewards that beckon to leadership today, in all walks of life, you *must work with people*—get them to like you—get over your ideas to them—influence their thoughts and actions. And now a plain method of developing this ability—11 simple rules that successful business leaders follow—things that *you can start doing today, without study or practice*—are given in this new book.

THE TECHNIQUE OF HANDLING PEOPLE

By DONALD A. LAIRD *and* ELEANOR C. LAIRD

Read what—

EUGENE G. GRACE, who became president of Bethlehem Steel at thirty-seven, says about observation;
WALTER A. GIFFORD, who became president of A. T. & T. at forty, says about listening to opinions;
CHARLES E. WILSON, self-made president of General Electric, says about wanting to get ahead;
WALTER D. FULLER, who advanced from selling copies of the *Saturday Evening Post* to presidency of the Curtis Publishing Co., says about Big Ideas to get ahead;
LOUIS RUTHENBURG, who became president of Servel at forty-six, says about the spirit of work.

The observation of these and many other important men of industry lend concrete evidence to back up the soundness of Dr. Laird's book. The book gives seasoned, practical advice on the technique of handling people and shows in quickly understandable fashion how to use the psychology of leadership.

How to understand and work with others

This readable, practical manual presents 11 pointers on what to do and say in your everyday contacts with others, in order to win their friendship, good-will, and cooperation. The methods are clearly demonstrated in numerous stories of real people, outstanding leaders, of today, and together form a direct, easy-to-understand, easy-to-use technique for improving your relations with others and especially for securing better results in training, directing, supervising, and other elements of successful leadership.

ASK TO SEE IT 10 DAYS ON APPROVAL

McGRAW-HILL BOOK CO., 330 W. 42 St., N.Y.C.18

Send me Laird's The Technique of Handling People for 10 days' examination on approval. In 10 days I will send $1.75, plus few cents postage, or return book postpaid. (Postage paid on cash orders.)

Name .....

Address .....

City and State .....

Position .....

Company ..... TW. 11-45

(Books sent on approval in United States only.)

POUND FOR POUND
DOLLAR FOR DOLLAR
Calgon

will process *more*
textile material
than any other
phosphate

Calgon is the registered trade-mark of Calgon, Inc. for its vitreous sodium phosphate products . . .
Write for technical bulletin No. 3 "Calgon Data for the Textile Chemist." Address Calgon, Inc., a subsidiary of Hagan Corporation, Pittsburgh 30, Pa.

ROBISON
Rayon Yarns
Filament and Spun Rayon Yarns
dyed and twisted to your specifications.
ROBISON PROCESSING COMPANY, Inc.
BOSTON, MASSACHUSETTS
New York Sales: 450 Seventh Ave.

Kanazawa, Kiryu, Kyoto, and others remain practically intact. As soon as the quantity required for reparations can be ascertained, the remaining 70% of the looms should be put into operation under a given plan and efforts made to meet the reparations. Although touching a high of Y140,000,000 ($9,333,333) in 1929, silk fabric exports from Japan barely managed to maintain a Y43,000,000 ($2,900,000) level in the years just before the war."

When Mr. Ishihara was asked whether the existing textile control setup is sufficient to meet the new situation, he declared: "It is time to re-examine the textile control organizations fundamentally. The existing organs were established after exports had been suspended, so they cannot fit into the scheme of meeting the war reparations. As soon as the details of the reparations are definitely made clear, the silk exporters' organization can be established and a start made toward a bright future."

Fast Colors for Rugs

(*Continued from page 111*)

make an excellent carpet with optimum weaving and wearing qualities, and provides an unusual appeal due to its clarity of color. It is known under the trade name of "Tufton."

DIRECT COLORS. Most of this fiber now in use by the carpet industry is being dyed with direct colors because of the ease of application and the low cost. While the initial appearance has been acceptable, this method does have some shortcomings. Chief among these is insufficient fastness to light, very important in single colorings, especially the popular light shades of tan, beige, green, blue, turquoise, and rose. Also, the washing fastness of direct dyeings is not satisfactory; neither is the fastness to acid and alkaline staining, such staining being very marked on certain colors.

Extensive research on a practical scale has been conducted to develop fast vat dyes which would solve these problems. Numerous dyeings of 50-lb. batches of the rug staple were made in a stainless-steel Smith-Drum pressure-dye kettle in various light shades using vat colors. Later the staple was subjected to rigorous tests for resistance to washing and light.

It was found that shades exposed to the fadeometer for 120 hr. showed no appreciable fading, while the best direct colors faded quite definitely in 40 hr. Washing tests were completely satisfactory; it was possible to scrub or wash any stain that would be removable by washing without the

LEIGHTON

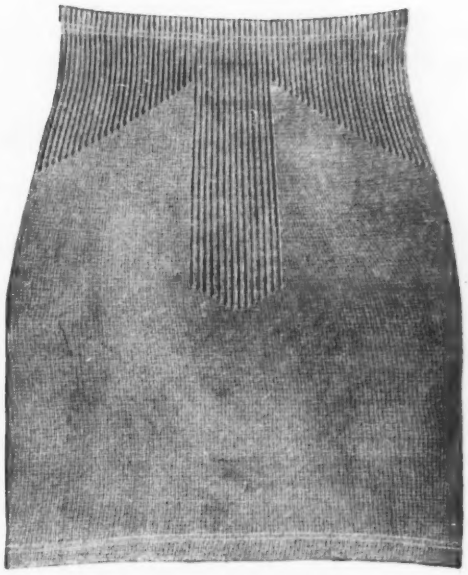
CIRCULAR LATCH KNITTING MACHINES

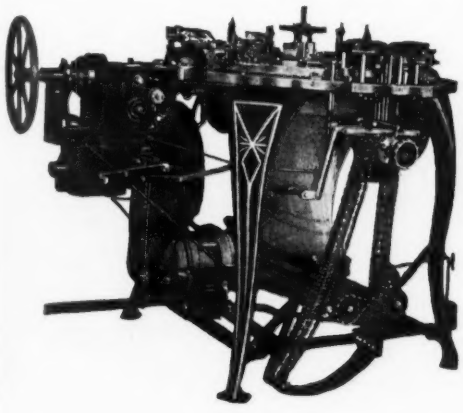
Built Right ***Knits Right***

DROP STITCH MACHINES:

Especially designed for high quality fashioned girdles. Simple dependable operation. No wheels or pattern cards. Also adapted for bathing trunks or various similar garments.

Fully covered and protected by Patent No. 2,132,046.





LEIGHTON FULL AUTOMATIC TRANSFER MACHINES:

Multiple Feeds—2½ to 10 cut.

Excellent Racked Edges.

Two or Three Color Stripe.

Large and small sizes.

Optional: *brushing attachment* for automatically brushing garments as they are knit.

Other 'Leighton' Machines

- Three Needle Selective Rack
- Three Color Striper
- Trim Machines 3 or 4 Color For 2 & 2 Cuffs and Bottoms
- Pattern Wheel
- Stripe & Check
- Single Stitch
- Collar & Cuff
- Border
- Shaker
- Jacquards
- Sleevers
- Cap & Legging Machines
- Special Machines for Special Purposes

Machines for All Sizes—Fine or Coarse Gauge

LEIGHTON MACHINE COMPANY
ESTABLISHED—1873

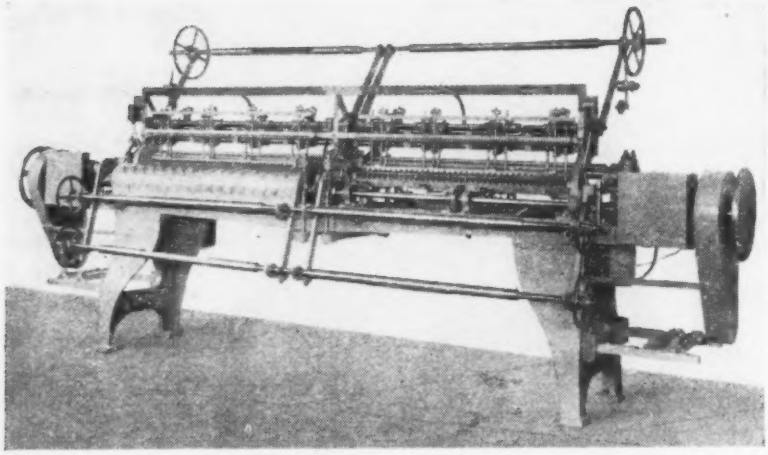
LEIGHTON

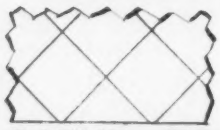
MANCHESTER NEW HAMPSHIRE
INCORPORATED—1894

"MULTI-NEEDLE"

Quilting Machines

PATENTED





New special, automatic, multi-needle.

Built to your requirements.

Automatic sewing, with as many as 180 needles.

PATHE TOOL MANUFACTURING CO., INC.

40-09 21st Street, L. I. City, N. Y.—New York City Office—441 Lexington Ave.

STANDARD in the Quilting Industry

DRAPER Dependable SOAPS

For more than 85 years, DRAPER has been providing better soaps for better fabrics.

The Textile Industries long have known that "Depend on DRAPER" has real significance, for the users of DRAPER Dependable SOAPS are producing better cloth.

Write for a demonstration of DRAPER SOAP *quality*.

DRAPER SOAP CO.

DIVISION OF CONTI PRODUCTS CORP.

171 Front St. Tel. No. Perry 1806 Pawtucket, R. I.

slightest loss or change in shade. The vat dyes, moreover, are not changed in shade with acid or alkaline stains, as many direct colors are.

The use of fast milling colors is recommended as having greater fastness to washing and acid or alkaline stain, as well as good fastness to light. They have the further advantage of not being in such a highly acid condition, and as such are better in combination with rayon.

WHY NOT USE BEFORE. In view of the apparent superiority of vat dyes over other dyes, it is quite reasonable to ask why they have not been used before; why are they not in general use now; what are the difficulties and drawbacks? The main answer is that direct colors are easier to apply. The direct dye is simply boiled on and salted, and additions are made until the desired shade is reached. It is reasonably certain that each batch will be even. Furthermore, direct colors are applicable in almost all types of machines, or even in hand tubs. In the event that the batch is unsatisfactory for any reason, it is possible to strip off the color and redye.

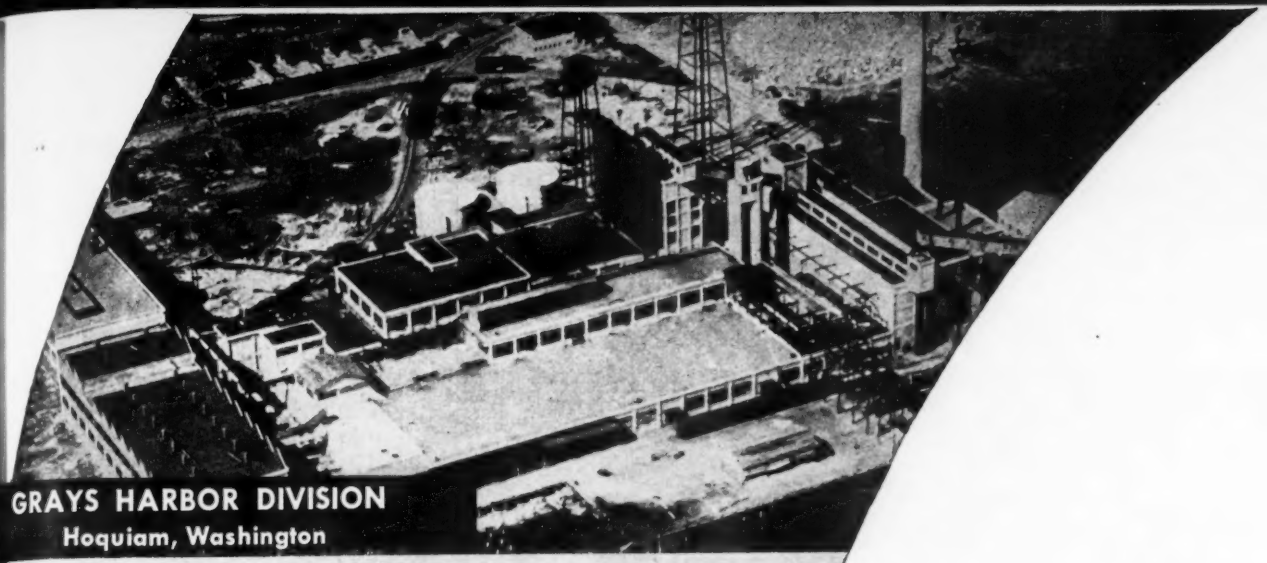
Vat dyes, on the other hand, present a different problem. They are practically impossible to strip, but it is quite possible to dye even batches and, by making laboratory trials, to come quite close to the desired shade without resorting to additions. This has been done repeatedly in the Textile Research Department of the American Viscose Corp. In very few cases have there been unlevel results, but at no time has the unevenness been so bad that the staple could not be blended.

Evidence seems to prove that the pressure dyeing machine, in which there is a complete circulation of the dye liquor every minute, is the ideal type. The method used by the Textile Research Department is to add the vat pigment and reduce after circulation.

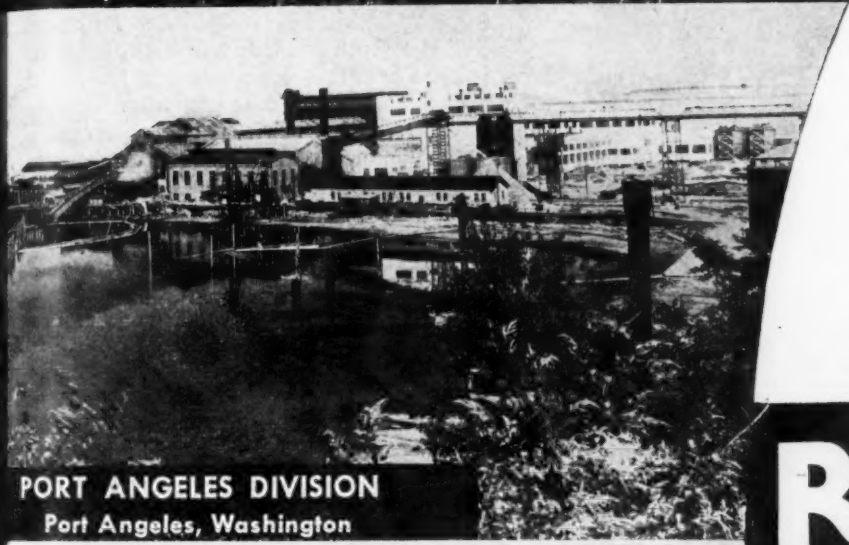
PRECAUTIONS. There are, however, one or two points to be watched. The "Tufton" stock should be well-opened on the picker and not used as it comes from the bale. This permits more even packing and thus prevents channeling. It also allows the stock to conform to the shape of the dye machine.

There should be no attempt to pack too much in the machine. A safe method is to put no more in the machine than it is supposed to hold. A machine built for 50 lb. of stock should not, for instance, be packed with 70 lb.

As is well known, rayon swells when wet; and if the machine is overloaded

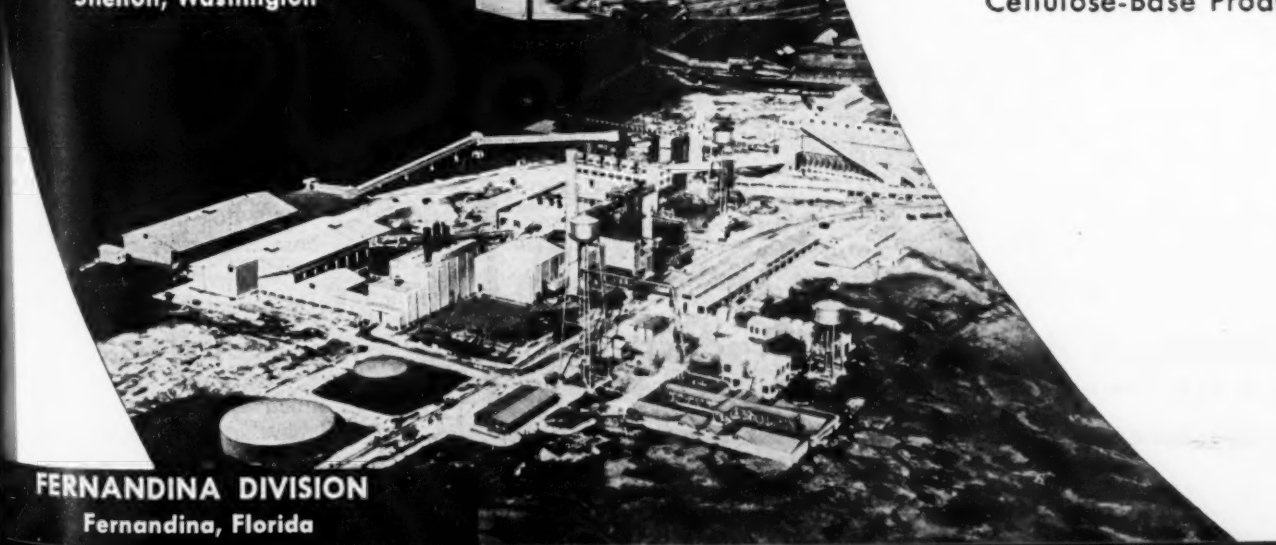


GRAYS HARBOR DIVISION
Hoquiam, Washington



PORT ANGELES DIVISION
Port Angeles, Washington

SHELTON DIVISION
Shelton, Washington



FERNANDINA DIVISION
Fernandina, Florida

RAYONIER
INCORPORATED

Sales and Executive Offices: 122 East 42nd Street, New York 17, N.Y.
Mills: Hoquiam, Port Angeles and Shelton, Wash., and Fernandina, Fla.

DISSOLVING PULPS

for conversion into

Rayon ★ Tire Yarn ★ Cellophane
Photographic Papers
and other
Cellulose-Base Products

pound for pound...
dollar for dollar...

Calgon*

will process more textile material than any other phosphate

* Calgon is the registered trade-mark of Calgon, Inc. for its vitreous sodium phosphate products . . .

Write for technical bulletin No. 3 "Calgon Data for the Textile Chemist." Address Calgon, Inc., a subsidiary of Hagan Corporation, Pittsburgh 30, Pa.

there is a well-nigh impenetrable mass; and uneven results will surely follow. The use of liberal quantities of a sulphonated fatty alcohol is recommended as it seems to carry the particles of dye through the mass much better than when small quantities are used, thus insuring more even results. Vat dyeing takes a slightly longer time than direct dyeing.

The question of price is important and one which is often discussed. For example, to dye a 100-lb. batch of a light shade by a direct color, the dye cost would run to approximately 1c. per lb., while with a vat dye the cost would be 3 to 5c., depending on the depth of shade and the color used. At first, this seems a tremendous price differential; but if computed on the price of a 9 x 12 rug, the difference in money is not great. For example, assume the total amount of yarn used to be approximately 28 lb., one-half rayon, and one-half wool. The cost of dyeing the 14 lb. of rayon by the use of direct colors would be 14c. and dyed by vat colors would be 42c. The difference of 28c. in the cost of a 9 x 12 rug is a small price to pay for the advantages offered.

Even in a darker shade, where the price would naturally be higher, the additional slight cost per yard of carpet would be worth while to the consumer, who would be assured permanence of color and would be much more favorably impressed than he would be by a rug that lost its brilliance after a short time.

Fast colors in carpets will be very nearly an absolute necessity in the new era we are about to enter. Even before the war, the trend was to well-lighted, sunny rooms and, in many houses, full-length windows. Style trends indicate wall-to-wall covering in single-colored carpeting with the result that fast colors will be imperative to meet good-service requirements.

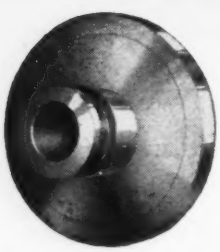
Modern Flame Singers

(*Continued from page* 139)

dried the cloth. Aside from the drying, the requirements of singeing and oxy-acetylene welding appear to be identical as both can best be done with extreme flame velocity and at the very tip of the flame capsule.

The first singe burners were an adaptation of the low-pressure, open-flame gas burner. According to the cloth speed required, two, three or four burners had to be used in series on each side of the cloth, resulting in excessive fuel consumption and not too good a singe. Next came slot burners. However, much of an improvement they might have been when burning

Worn Parts Reconditioned
actually outwear new ones



For Example: **Rollers.** We turn roller down and shrink on a Thomas & Skinner Long Life Tire made from special wear-resisting material. We also grind surface to correct diameter.

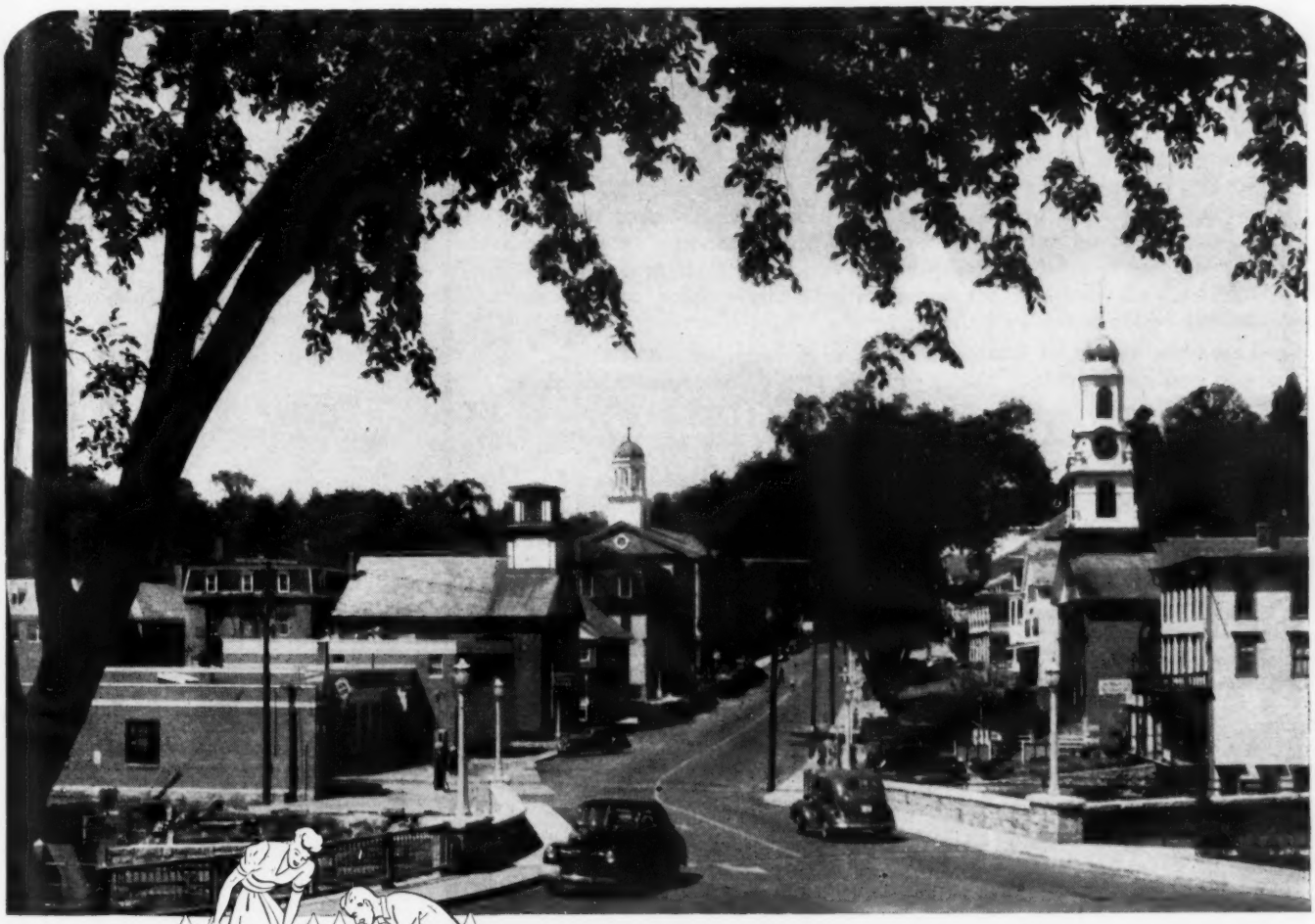
Thomas & Skinner Reconditioning Service restores cams, gears and other parts for full-fashioned knitting machines to their exact original size and shape. And one special processing gives T & S Reconditioned Parts a more enduring surface than the same parts had when new. Satisfactioned guaranteed.

T & S Products

We manufacture an extensive line of quality products for full-fashioned hosiery mills including Jacks, Narrowing Plungers, Narrowing Chain, Friction Springs, Snapper Springs, Magnetized Sinker Hooks, Cams, Running-in Machines, Locking Dials.

Thomas & Skinner Steel Products Co.
1119 EAST 23rd STREET • INDIANAPOLIS 5, INDIANA

PICTURE OF YOUR EMPLOYEES' Home Town



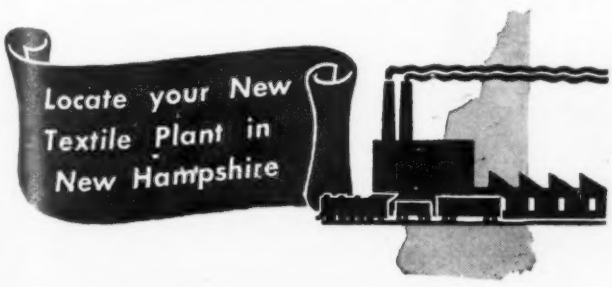
This view is typical of the charm and beauty of the average New Hampshire manufacturing community.

LOCATE your textile plant in New Hampshire and this is the sort of town in which your employees will live. There will be fine stores, excellent schools and churches consistently well attended.

There will be trim dwellings with well-tended gardens. From such homes as these, the people who are with you during working hours can reach good hunting and fishing during leisure hours. Because these people live exceptionally well, they also enjoy their work.

Other manufacturing advantages in New Hampshire include: Low power rates, fine transportation to markets everywhere and a system of road patrol which makes highways usable every day in the year.

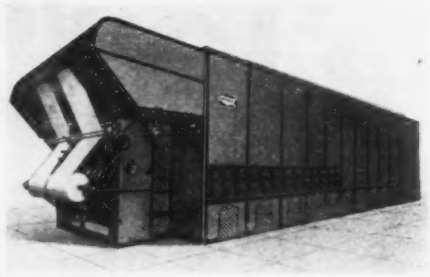
Write for your copy of our booklet on locating small and medium sized industries: "A Plant in New Hampshire." Address Edward Ellingwood, Industrial Director, 90 State Office Building.



NEW HAMPSHIRE

State Planning and Development Commission

CONCORD, New Hampshire



More New Features . . .

TO ASSURE LOWER DRYING COSTS!

IN This latest Model E Piece Goods Dryer, "NATIONAL" has added new means to faster, more uniform drying and curing at *important savings* in operation and maintenance. The high-velocity, adjustable pitch, direct-drive propellers perform efficiently at higher static pressures. Improved core-flanged rotating and expanding conveyor poles eliminate all circulatory strain on the wood . . . *steel* carries the entire motion load. Extra doors and additional streamlining of the interior permit easier access and cleaning.

Learn the details of these and other advantages of "NATIONAL" design and construction. Wire, write or phone for representative.

Automatic Loop Dryers
Package Yarn Dryers
Print Goods Dryers
Truck Type Skein Dryers

NATIONAL

Straight Run Tenters
Return Type Tenters
Apron Stock Dryers
Continuous Yarn Dryers

THE NATIONAL DRYING MACHINERY CO.

WEST LEHIGH AVE. & HANCOCK ST., PHILADELPHIA 33, PA.

New England Agent—C. H. INGALLS, Providence, R. I.

R.D. COLE QUALITY

TANKS
TOWERS
STANDPIPES
STACKS
KIERS
KETTLES
VATS
AIR RECEIVERS
WELDED STEEL PIPE
DIGESTERS
BOILERS
BINS
FABRICATED FRAMEWORK

MARITIME "M" MERIT AWARD

Tank Builders for over 80 Years

R. D. COLE MFG. CO.

Established 1854

NEWNAN, GEORGIA

coke-oven gas, having no flame-retention means they were not adaptable to any other gaseous or vaporous fuel. Although they did use higher burner pressure, that very fact defeated them when burning anything but coke-oven gas, as the flame would lift from the slot, spread out on the cloth, and burn, which is an expensive and unsatisfactory way to singe.

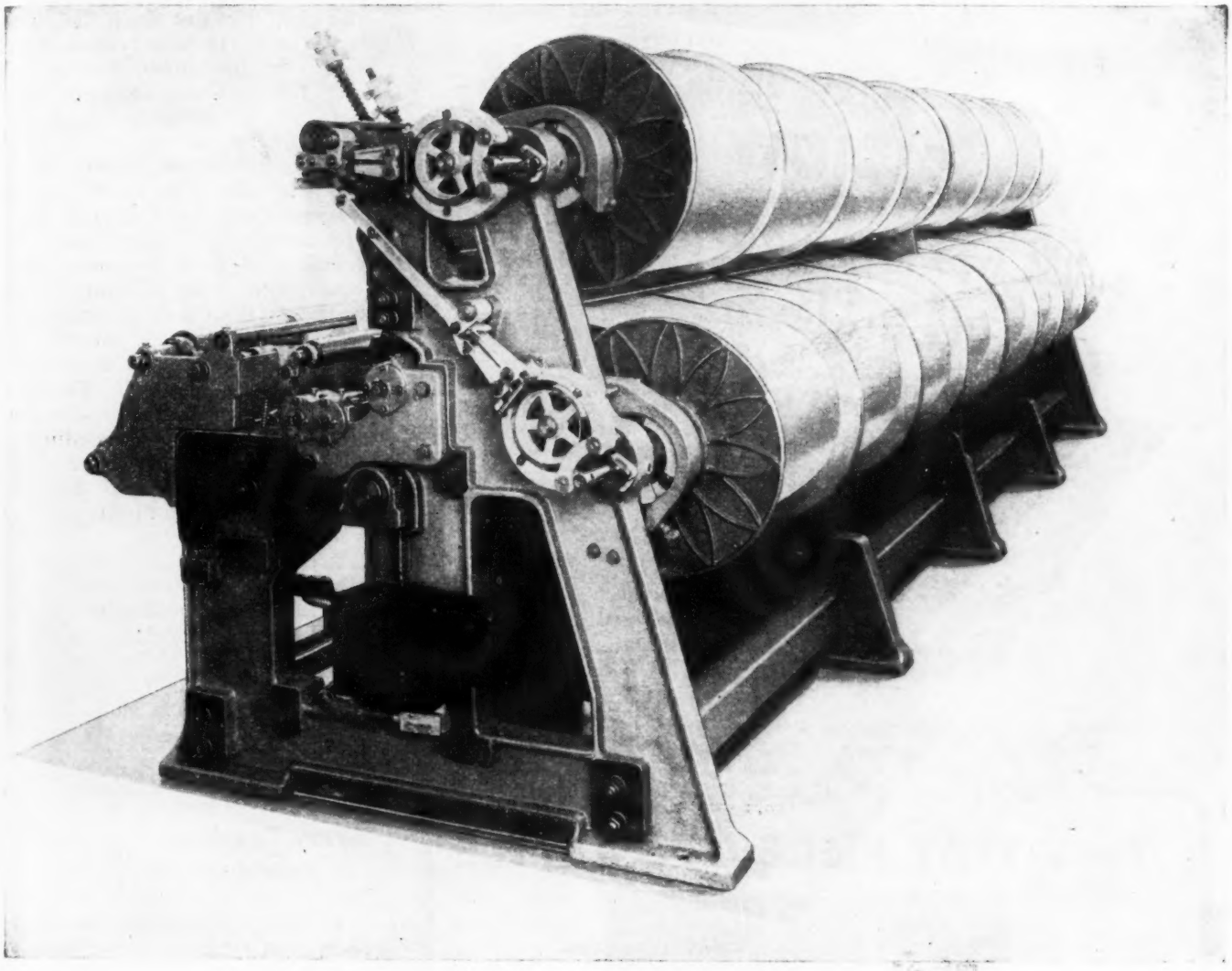
Several decades ago, many types of burners were tried with more or less, generally less, success until a one-piece, cast-iron, water-cooled burner was brought out, on which the cloth was held tightly against raised rails on each side of the orifice plate. The burner orifices were several thousand very small holes. A gasoline-vapor generating system was designed to supply the burners with combustible mixture. These complete singe outfits permitted flame singeing where manufactured or natural gas was not available.

About 15 years ago an oil-vapor generating system was put on the market in which a No. 1 furnace oil, or 38° to 40° distillate, was used for fuel. For singeing, this device began to substitute for the former gasoline-vapor generators with considerable reduction in hazard and in cost of operation. Singe burners, soon afterward perfected and patented, were adapted particularly to burn the oil vapor produced by the generator. The analogy between oxy-acetylene welding and singeing was quickly recognized and burners were developed to carry the heat to the lint on the cloth with extreme velocity. This, together with water-cooled, flame-retention guards, utilization of waste heat, and great reduction in water-cooled areas, resulted in a marked saving in fuel necessary to secure a close, uniform singe at highest speeds. With such extreme flame speed, it was necessary to have the flame hit the cloth at an angle to prevent burning holes when imperfections in the cloth passed over it.

An unexpected result from these developments was a considerable increase in singeing speed which in turn led to the use of a refractory apron ahead of the burner which is heated by the waste gas. The apron becomes red hot and reflects heat on the cloth, thus helping to dry it before it reaches the flame. As the cloth is in vertical position moving downward, the waste sensible heat passing between the refractory apron and the cloth, in a direction counter to that of the cloth, also provides powerful drying means.

The singe burners are made in 6-in. sections bolted together. The orifices are formed of rectangular, extruded ceramic guards, and are easily and cheaply cleaned or renewed. Flame-retention guards serve two purposes: First, to prevent the flame blowing off

This new **REINER** *high speed* **TRICOT MACHINE—Model RT-1...**



... is now being demonstrated at our showrooms so that you can see for yourself, judge for yourself and compare for yourself. We built into this machine the newest thoughts in construction and operation. Speed, economy, safety, and ease of operation have been stressed and welded into a harmonious whole.

This American-made machine takes 21 inch flange diameter beams; also the conventional 13¾ inch flange diameter beams. In addition we offer warping equipment to take 21 inch flange diameter beams in all commercial widths. Ask for folder.

To buy Reiner products means ready access to a fully interrelated line of machinery and their replacement parts—it means advice and services by Reiner experts—in short the fullest backing of an organization that has pioneered in the field of textile machinery since 1903.

An illustrated folder will give you a visual description of additional improvements and advantages of the new RT-1. Write for this folder today.

ROBERT
REINER
INCORPORATED
WEEHAWKEN, NEW JERSEY

Ten minutes from Times Square, New York City via Lincoln Tunnel. Take bus No. 61, 67 or 167 at Public Service Terminal 41st St. between 7th and 8th Avenues. Get off at Pleasant Ave., Weehawken, N. J. Tel. UNion 7-0502, 7-0503, 7-0504, 7-0505.

POUND FOR POUND

DOLLAR FOR DOLLAR

Calgon*

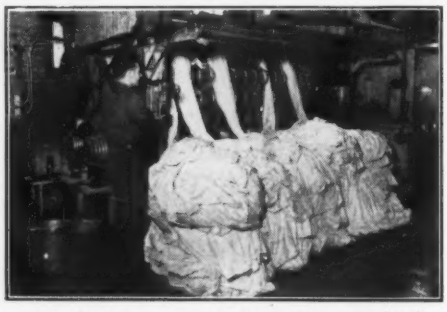
will process more textile material than any other phosphate

* Calgon is the registered trade-mark of Calgon, Inc. for its vitreous sodium phosphate products . . .

Write for technical bulletin No. 3 "Calgon Data for the Textile Chemist." Address Calgon, Inc., a subsidiary of Hagan Corporation, Pittsburgh 30, Pa.

The Fleet Line

Type TLBT PIECE DYE KETTLE



Installation in prominent New England mill making knitted outerwear fabrics.

5 UNIQUE IMPROVEMENTS

1. Nearest thing to universal kettle ever offered. Handles all types of woolens and worsteds from 5 oz. flannels to heavy knitted ski cloth. • 2. No tangles or tie-ups due to tub-design and large drum type Multi-Grip reel (patented). • 3. Wrinkles, creases and dye streaks virtually eliminated, because goods move around and change folds readily. • 4. No slip, due to Multi-Grip reel. • 5. Savings in dyestuffs up to 10%.

RIGGS AND LOMBARD

FOOT OF SUFFOLK ST., INCORPORATED LOWELL, MASS.

or lifting from the orifices; Second, to force it out through a sharply tapered orifice with resulting homogenization and high velocity. The flame guards are made of castings 3 in. long and strung on water tubes located to prevent overheating any part of the guards. The cloth does not touch the burner at any point. Its best location is ¼ to $\frac{5}{16}$ in. from the burner. Through this space the waste heat flows out and is usefully employed in necessary drying previous to singeing.

There has lately arisen a demand for singers to work in range with processes of several kinds. A singeing machine to work successfully under such conditions must have its control interlocked with other machines in the process. Its flame must be extinguished before the cloth stops, whether the stoppage is intentional or if caused by a break out in the cloth. The flame must start instantly after the cloth begins moving and must continue as long as the cloth moves above a predetermined speed. Once the pilot flames are ignited no further attention is necessary.

Several of the full-automatic process singers have been installed as regular single-room equipment. Users say that both labor costs and cloth spoilage are considerably reduced by use of this feature. When used in range, very substantial reductions in cloth handling costs are often made.

Army Textiles

(*Continued from page* 157)

The program for future QM studies of abrasion resistance of textiles is set forth as follows: (1) development of accelerated wear tests, (2) study of the effect of yarn and fabric structure upon wear resistance of textile materials, (3) study of the effects of finishing processes as carried out in textile plants today, as well as fabric treatments developed by the synthetic-resin industry.

DETERIORATION. The progress made by the Army in the study of tropical deterioration, particularly by QM in the field of cellulose degradation, will easily rank as a major scientific achievement in the field of bio-chemistry, Col. Kennedy declared. Dr. William H. Weston outlined the three basic aspects of the problem which are photo-chemical and chemical deterioration, and attack by micro-organisms. He showed how QM has met these problems during the war and what progress research along this line has made up to the present time.

In discussing new materials and

Southern New England...
BLUE BOOK OF AMERICAN INDUSTRY

GET out your directory of manufacturers . . . check with any credit rating service . . . and you'll discover more leading industries with headquarters—or branches—in Southern New England than in any other part of the country.

For example, while you probably associate the name of General Electric with Schenectady, General Electric also has large plants here in Massachusetts. So have Cluett, Peabody; Westinghouse; Pullman.

As for American Optical, Simonds saws, Whitney carriages, American Woolen, Pro-phy-lac-tic brushes, M. J. Whittall rugs, and many more . . . they were native born.

These manufacturers did not pick Southern New England by chance.

They chose Southern New England because it was the most highly-industrialized area in the whole United States . . . and always has been.

Also, because Southern New England is in the heart of the great mass of America's consuming public.

Inside a radius of 500 miles from the center of Southern New England are 58,000,000 people to use Southern New England's consumer goods and her vast output of producer commodities . . . the parts and tools upon which other industries depend to keep going.

And through her great seaports, Southern New England is only a step away from tidewater and easy access to the foreign markets that will develop now that the world is again at peace.

If your postwar plans are still in a state of flux, think hard about Southern New England . . . a great place to promote your new or expanding business . . . and a great place to live and play, too.

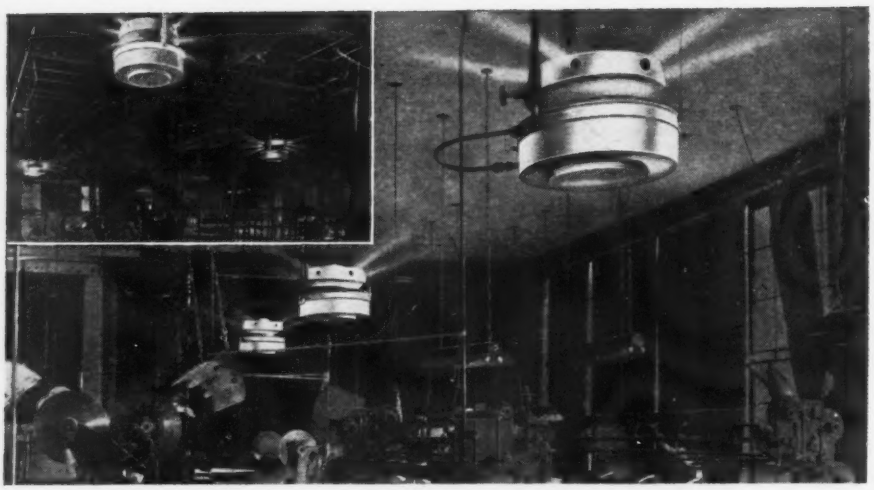
* * *

A full-color booklet is yours for the asking: *"Southern New England For Tomorrow's Industry"*. Get your copy by writing to P. E. Benjamin, Manager of Industrial Development, The New Haven Railroad, 80 Federal Street, Boston 10, Massachusetts.

This is one of a series of advertisements presenting the industrial advantages of Southern New England.

THE NEW HAVEN R.R.

Serving **SOUTHERN NEW ENGLAND** *with a network of rail and highway transportation that puts every manufacturer* "ON THE MAIN LINE".



Walton

The Use of Synthetic Fibres Makes the Question of Proper

HUMIDIFICATION

of Paramount Importance!

Yearly maintenance checkup in your mill may indicate the need for accurate, simple, humidifying equipment, installed and operated at low cost.

The logical answer is WALTON. The new booklet "HUMIDITY" gives full data. Write for it.

WALTON LABORATORIES, INC., Irvington, N. J.

STANSOMINE:

For all cotton fabrics.

Increases the speed and efficiency of boiling off and scouring operations. Improves the bleach. Produces a softer finish. Effectively emulsifies oils, starches, waxes. Ensures uniformly brilliant dyeing.

Our laboratory and chemists are at your service to render information and assistance in solving your problems.

Samples and quotations gladly furnished upon request.

Standard Soap Co. of Camden

205 South 2nd St.
CAMDEN, N. J.

G. TANGUAY
281 Harris Ave., Woonsocket, R. I.

processes for military use, Chandler Robbins declared that every area of research mentioned may find the final answer ultimately in synthetic fibers. He spoke of the fine work done by a QMC committee on synthetic fabrics, established in the fall of 1942, also the technical sub-committee including Dr. Harold DeWitt Smith, Dr. Ernest B. Benger, Ernest C. Geier, and Joseph Meierhans. The accumulated data of this group has given the background for most of the work.

Early in the war, a project was undertaken to determine the extent to which rayon could be used as a replacement for wool, said Mr. Robbins. Eleven blends of rayon staple and wool were prepared and tested against four all-worsted fabrics and one worsted-cotton blend. Results of the test indicated that the blend of 70% wool and 30% cotton was better in durability than either the all-wool or rayon-wool construction.

NYLON ITEMS. The most important netting procured was insect netting designed to protect soldiers from insect-borne diseases. Here nylon was the answer, Mr. Robbins stated, because of its high tenacity and its inherent smoothness, which permitted a construction lighter than cotton, three times as strong, and with greatly increased transparency. Also, it was mildewproof. However, the smooth filament yarns resulted in a fabric too easily distorted by slippage during manufacture and use. Manufacturers of resin-bonded pigments helped to solve this difficulty.

Although nylon made the best netting, because of its critical supply research continued along other lines. Said Mr. Robbins, "Early in the war we had used some 150-den. medium-tenacity viscose and found its tensile strength to equal cotton, but its price was out of line. As the war ended, 150-den. rayon, both acetate and viscose, was again considered. The manufacturers of acetate had developed a medium-tenacity yarn that showed great promise and would have been used had the war continued. This netting had a dry strength greater than cotton and a wet strength equal to it. The advantage in the acetate was that, like nylon, it was inherently mildew resistant. This property was also found in a Du Pont experimental fiber which we also tested. In addition, this Du Pont fiber was found to be more resistant to sunlight deterioration than nylon."

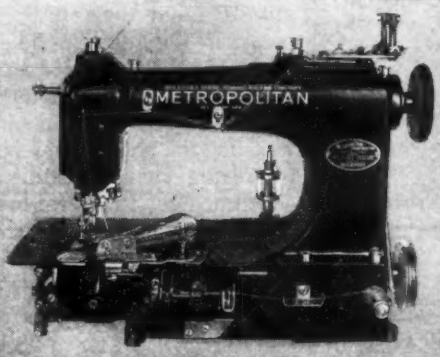
Spun nylon was experimented with for many possible items during the latter part of the war. "It was found that spun-nylon duck was many times more durable than cotton duck in resistance to external and internal abrasion, and

DEPENDABLE SEWING MACHINES for the KNIT GOODS INDUSTRY

Willcox & Gibbs Flat Bed Sewing Machines are essential factors in the manufacture of fine quality knit underwear.

Their dependability, under all manufacturing conditions, is based on the knowledge and skill of a highly trained group of specialists with a background of more than 85 years experience in the design and construction of quality sewing machines.

While new machine production, in volume, is still limited by raw material and labor shortages, the situation is improving rapidly. In the meantime why not consult your nearest "W.&G." representative; he will help you get the most out of your present equipment.

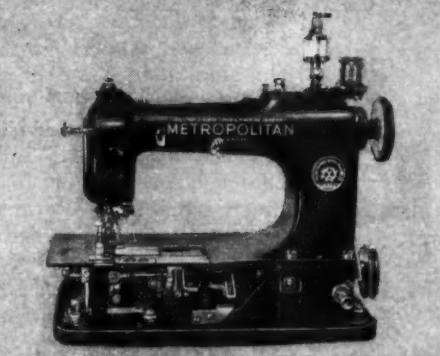


STYLE 950 CDD-2

For attaching split tubing or binding to the necks and arm holes of ladies' rayon, silk, and cotton undergarments; men's and boys' athletic shirts and union suits.

STYLE 970 ACWS

For attaching wide flat elastic waist bands to men's knitted or woven shorts, briefs and similar garments. Special elastic tension device eliminates slipping and creeping of elastic.



STYLE 970 CDD

For attaching cuffs to cotton and woolen knit shirts, drawers, union suits; and for hemming on sweaters and knit goods. A positive differential feed eliminates stretching of material.

STYLE 992-5

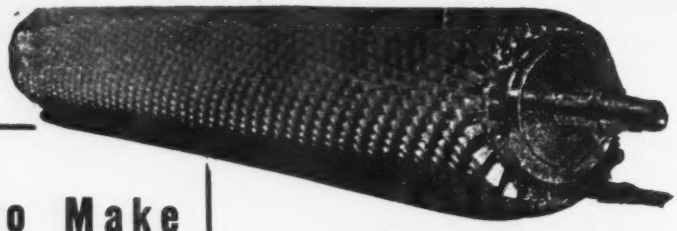
For hemming and inserting elastic in ladies' and children's rayon and silk undergarments, pajamas, dresses, etc. Special attachments are provided to insert elastic loose in the hem.

SEND FOR ILLUSTRATED DESCRIPTIVE BULLETINS

WILLCOX & GIBBS SEWING MACHINE CO.

214 West 39th St. New York 18, N. Y.

IMPROVE TEXTILE PRINTING *with*



We Also Make Flock Brushes

Raising and laying Brushes and Clothroom Brushes

Ask for our catalog of Metal Core Brushes

JENKINS METAL CORE FURNISHER BRUSHES

These Furnisher Brushes—have nylon bristle. Easily cleaned, they do not absorb or hold color to bleed when colors are changed.

The cores of these brushes are of cold drawn steel or aluminum, and last indefinitely without sag, running true at all times.

Nylon or other bristle is wound on the metal core by a patented process, with flat copper wire in moisture-proof cement. Bristle can be replaced when worn.

M. W. JENKINS' SONS, INC.
CEDAR GROVE, ESSEX COUNTY, NEW JERSEY

Since 1877—Manufacturers of Industrial Brushes of all types

Sterling Ring Travelers

FLANGES

Your rings may measure flange 1. But, if the top or web is thicker than usual, a regular flange 1 Traveler, especially with a small circle, may not fit them correctly. Send us a ring to be fitted with the correct Traveler.

Southern Representatives
D. J. QUILLEN, Box 443, Spartanburg, S. C.
D. C. ANDERSON, Box 629, Cedartown, Georgia

STERLING RING TRAVELER CO.
FALL RIVER, MASS.

apparently this held true even in comparison with filament nylon," Mr. Robbins stated. He added, "experiments employing spun nylon in jungle boots indicated a material with durability equal to leather while at the same time having a porosity controllable according to the designer's wish." Other proposed uses for spun nylon were in shoe laces and binding tapes.

Rayon is promising in cot covers. A high-tenacity rayon duck is at present on the top of the list of fabrics that have been tried in comparison with cotton duck of heavier weight.

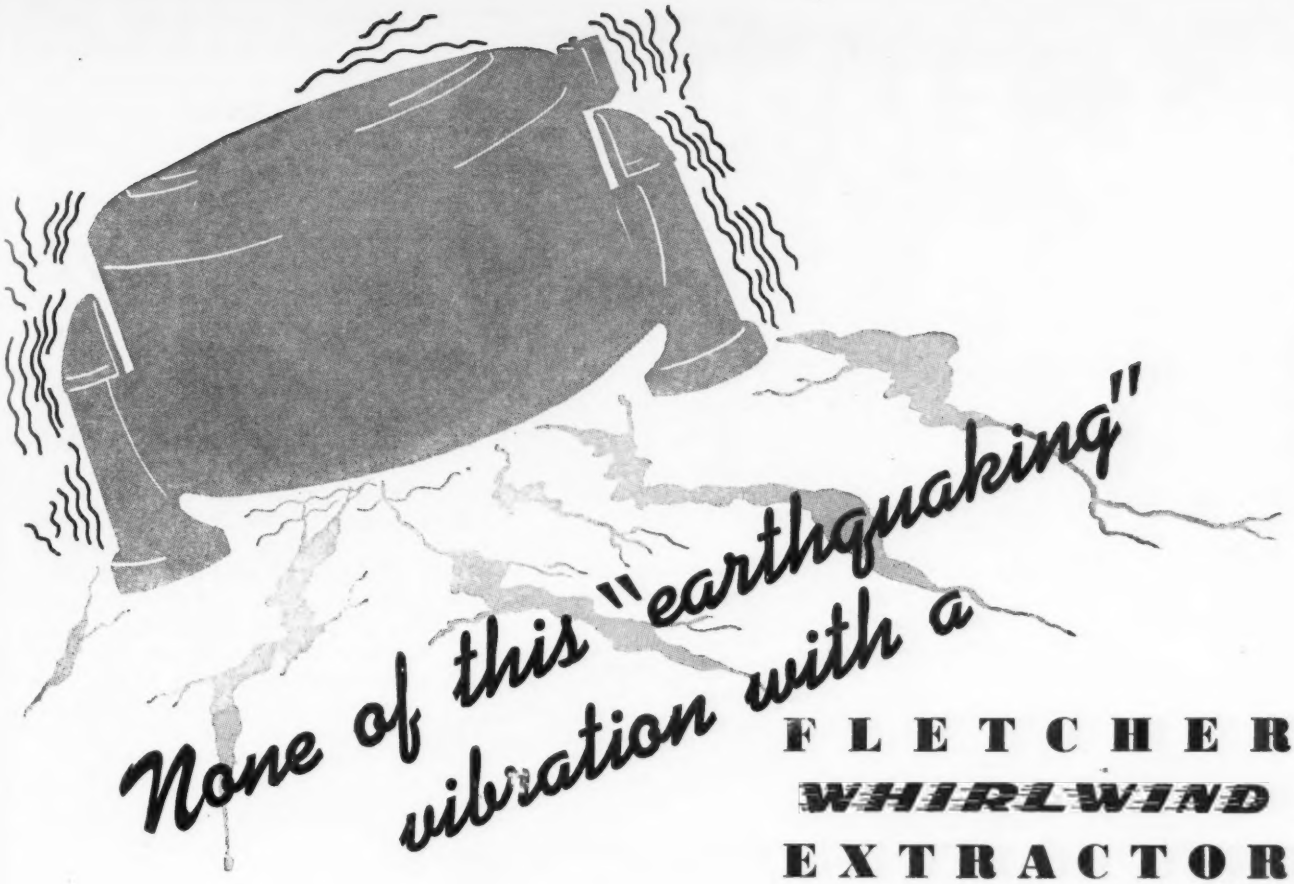
Mr. Robbins quoted from the Edgar Marburg lecture of Dr. Harold DeWitt Smith on an engineering approach to the utilization of textile fibers, "The only real limitation on the variety and the characteristics of textile fabrics yet unborn will be the ability of the textile designer and technologist to help the fabric maker understand what kinds of fibers are wanted."

Dr. Smith, who participated in the meeting as spokesman for the textile industry, said that on at least several occasions the industry had achieved for the QM what appeared to be the impossible. The huge amount of research that had been undertaken during the war, he said, should now be applied to improving civilian textiles as well as continued for the betterment of both civilian and military fabrics.

Trash in Cotton

(*Continued from page* 135)

of 9.1%. Thirteen had a waste of 10% or above, and 11 had less than 5%. The 2 cottons with a change of 6 grades following cleaning had 5.7 and 7.0% waste; the 3 with changes of 2 grades had between 4 and 5% waste. The amount of waste apparently does not account for these changes in grade. Since in this study grade has been confined to leaf (or waste) and color, this difference must be due to color. Presumably the color of the fiber itself does not change when the trash is removed. Examination of the trash, the uncleaned and cleaned cotton, and comparisons of the percentages of waste and the grades revealed that the cotton with a large amount of leaf which weighs little is penalized more than the cotton with a small amount of sand which weighs relatively much more. The cotton classer can judge only by what appears to be the color of the cotton. The apparent color of the cotton is adversely affected by the large amount of leaf or stem, which color appears to spread to the fiber or is reflected by it. The effect of sand or other small heavy trash on the color of the fiber is relatively slight. Difference



None of this "earthquaking" vibration with a

FLETCHER
WHIRLWIND
EXTRACTOR

it's the last word in *smooth* performance

One of the biggest headaches that textile mill owners have, is caused by the fact that it is necessary to install so much of their equipment on ground floors, because of the terrific vibration of much of their machinery . . . vibration that at times shakes the whole building. And, in many instances there just isn't room to put all the equipment on one floor . . .

That's one reason why Fletcher made a special point of tackling the problem of vibration. Fletcher engineers went to work and produced an extractor that operates *efficiently, smoothly,* even at high speed (1000 r.p.m.), without causing undue vibration. The Fletcher "Whirlwind" extractor was designed so that it can be installed on upper floors, safely . . . satisfactorily. It's the last word in smooth performance.

Other reasons why the "Whirlwind" gives such a smooth performance: **open top, built low, large capacity; loads and unloads faster, easier; attains speed sooner; hydraulic brakes stop machine in less time; takes less space; perfectly smooth basket cannot harm the most delicate fabrics.**

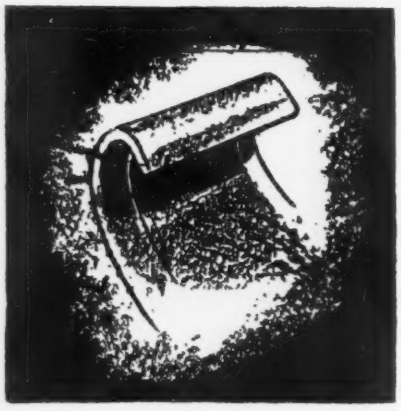
FLETCHER WORKS **223 GLENWOOD AVE., PHILADELPHIA 40, PA.**

Made by crayon experts—and for many years meeting the exacting requirements of wool, cotton, silk and rayon textile mills.

18 clear, easily distinguished colors. Both large and small stick crayons.

Write to Dept. T-2 for a FREE chart showing these colors!

THE AMERICAN CRAYON COMPANY
1706 HAYES AVENUE, SANDUSKY, OHIO
NEW YORK SAN FRANCISCO DALLAS



THE BEVEL EDGE

A "U.S." RING TRAVELER

PIONEERING CONTRIBUTION!

The Bevel Edge on a Ring Traveler is distinctly a "U.S." contribution to smooth spinning and twisting. By eliminating the angular sharp edge "U.S." avoids pull, gives uniformity of tension, more even yarn, less wear, less "fly." This is only ONE of the MANY "U.S." features.

• SOLD UNDER THESE TRADE NAMES

Bowen Round Point Travelers
Bowen Square Point Travelers
Bowen Improved Vertical Bronze
Bowen Patented Bevel Edge
Bowen Flat Oval and Round Wire Traveler
Bowen Patented Ne-Bow Vertical
Bowen Patented Vertical Offset

U.S. RING TRAVELER CO
AMOS M. BOWEN
President and Treasurer
PROVIDENCE RHODE ISLAND

in grade is apparently due to the character rather than the weight of the waste.

EFFECT ON STAPLE. It seems possible that in addition to removing the trash from cotton, passage through the Shirley analyzer might remove also some of the shortest fibers and perhaps break others. Assuming that a classer is allowed an error of ⅛ of an inch, only those cottons which differ by more than 2/32 can be said to have been changed by cleaning. Only 3 cottons show more than 2/32 change, 2 with 4/32, and one with 10/32, the latter probably an error. Twenty-five of the cottons were slightly longer when cleaned, 14 were slightly shorter and in 21 there was no difference in staple. The average staple for the 60 uncleaned cottons in 32nds of an inch is 28.7 and when cleaned 29.1, a difference of less than ⅛ of an inch. These averages suggest that cleaning the cottons with the Shirley analyzer had no effect upon the staple or that any effect was too slight to be noted.

The removal of waste from these 60 cottons shows that there would be an average gain of $7.11 per bale if the cottons had been cleaned. However, the differences in prices include a loss of $13.88 and a gain of $24.02, a range of $37.90. Sixteen show a loss and 44 a gain due to cleaning.

When the gain and loss are considered with respect to changes in staple, it is found that among those that gained there were 7 with shorter staple after cleaning, 23 with longer staple, and in 14 there was no change. The average change was a gain of 0.02 in. Among those cottons that lost in price through cleaning, 7 lost in staple, 2 gained, and 7 had no change, an average staple loss of 0.01 in. This difference in length of 0.03 in. between those that gained and those that lost, suggests that cleaning produced no real change in staple, nor was there a gain in price due to change in staple.

The average percentage of waste in the 44 cottons which gained in price by cleaning is 8.01, and the average for the 16 which lost is 12.05. If the 5 cottons with extremely high waste are not included (Nos. 1, 2, 10, 20, and 48), the average for the remaining 11 that lost is only 5.2%. There are wider differences in waste among those that lost, from 3.7 to 32.8%, than for those that gained, 3.9 to 19.4%.

Comparisons of individual cottons show some startling differences between prices of cottons of the same grade and staple. Nos. 48 and 49 have the same grade and staple before and after cleaning, thus bring the same price uncleaned; but since one has 32.8% and the other 7.1% waste, leaving 336 and 464 pounds of cotton,

Many materials and processes contribute to the making of a smart white fabric . . . pulp and paper . . . an ingot of pure metal . . . potable water . . . or an insecticide. But to all of these . . . and many more . . . "Cl_2" *is an important common denominator. In producing liquid chlorine and the other basic chemicals of its manufacture to the highest standard of purity and uniformity, Niagara is ever mindful of its responsibility as a leading and pioneering factor in America's great electro-chemical industry.*

An Essential Part of America's Great Chemical Enterprise

Niagara Alkali Company

CAUSTIC POTASH • CAUSTIC SODA • PARADICHLOROBENZENE • CARBONATE OF POTASH • LIQUID CHLORINE • NIATHAL

60 EAST 42nd STREET • NEW YORK 17, N.Y.

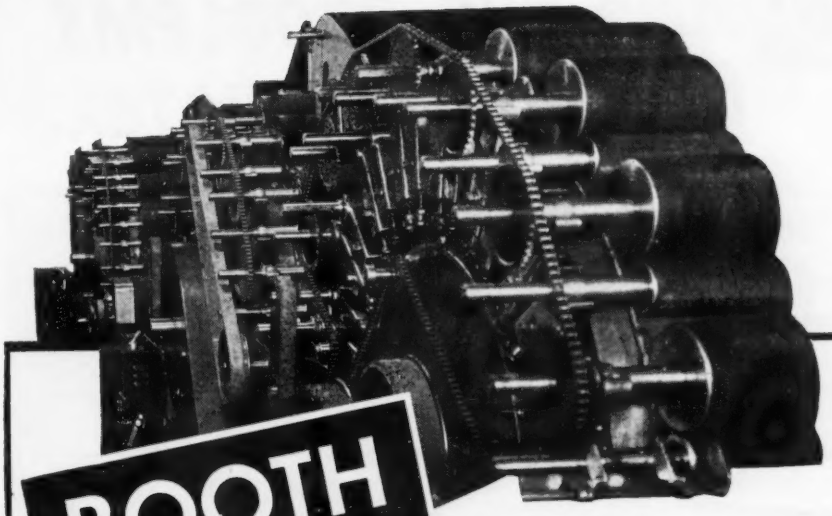
there is a difference of $27.47 after cleaning. Thus the cotton with 164 pounds of waste per bale brought the same price as the cotton of the same grade and staple with only 34 pound of waste. Cottons Nos. 1 and 6 show the same general differences, No. 1 bringing a loss of $9.87 when cleaned and No. 6 a gain of $13.65, a difference of $23.52 due to difference in waste. It would pay these producers with a high percentage of waste by weight to sell their cotton uncleaned.

MARKETING CHANGE NEEDED. This study indicates that in fairness to both the seller and buyer, certain changes should be made in present methods of marketing cotton. It is the system of grading, rather than the classer, which seems to be at fault. The classer, according to present grading standards, grades by the appearance and not the weight of waste; but cotton is sold by weight as well as by grade and staple. Since grade is composed of color, leaf, and preparation, the removal of trash would leave only color and preparation to be considered. Since the apparent color of cotton is greatly affected by the amount and character of the trash, its removal would reveal the true color of the fiber upon which basis it could then be sold. Cleaning might also improve preparation. If cotton were sold either free of waste or with due consideration to the weight of the waste which it contained, neither party to the sale would have the unfair advantage which now exists. There would be less temptation to offer for sale cotton with heavy waste, and the buyer would not pay for the waste which is not readily seen.

Cleaning would have reduced the space and transportation charges required by the average waste of 45.5 lb. per bale.

It appears that a premium should be paid for those cottons which grade above GM, or the grades above GM might well be eliminated. If there is any advantage in producing cotton which grades SGM or MF, it is now entirely in favor of the buyer.

From the data for these 60 cottons, it appears that either efforts should be made to develop suitable commercial-size equipment to clean lint cotton at the gin or the percentage of waste by weight should be determined and given due consideration when the cotton is sold. The quantity of cotton within a bale would then be known, there would be fewer bales (savings on transportation), and the producer would sell and the mill buy a product of higher quality. These changes would necessitate adjustments in our present grading and pricing system, changes which even now appear to be needed.



BOOTH Quality CARD CLOTHING

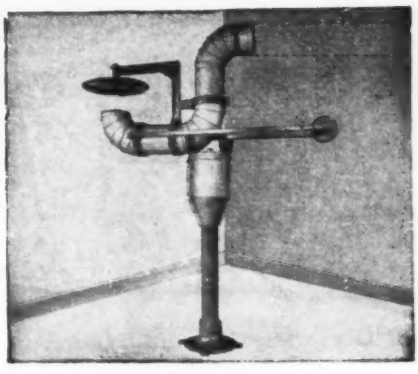
High-grade carders merit the best card clothing. All BOOTH card clothing has a firm fabric or leather foundation yet is fully flexible, which reduces the possibility of shelling out. It is available with rehardened points.

Write for full information and prices on the many items in BOOTH'S complete line.

Benjamin Booth Company

Allegheny Ave. & Janney St., Philadelphia 34, Pa.

Thorough Blending of Synthetic Fibers



TRUSLOW* BLENDER (patented)

Really thorough blending of spun rayon, wool and cotton with fibers of other raw materials is becoming increasingly important.

The Improved New Model Truslow Blender has been developed to provide thorough blending of almost all types of natural or synthetic fibers. The stock is blown through piping to the Blender. It then passes through a rotating arm and is blown up against the vanes of the canopy—making it revolve and distribute the stock in the form of a heavy snowstorm.

*Reg. U. S. Pat. Off.

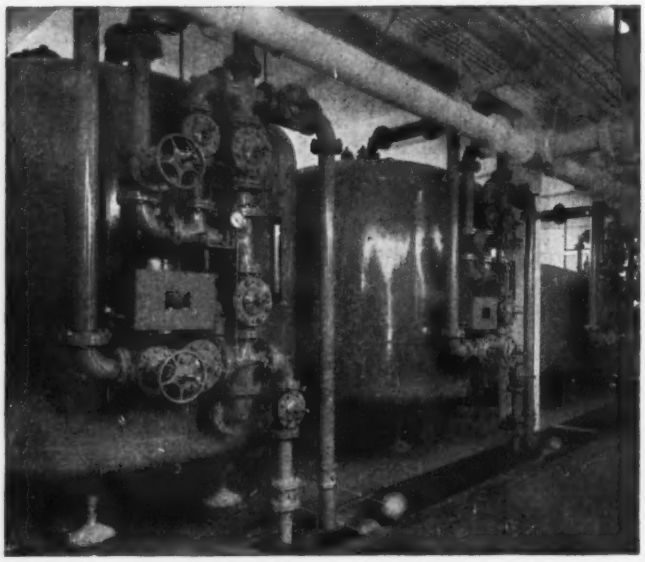
Curtis & Marble MACHINE COMPANY WORCESTER, MASSACHUSETTS.

SOLVING THE PROBLEMS OF PROBLEM WATERS!

Boiler Inefficiency

Heat Loss

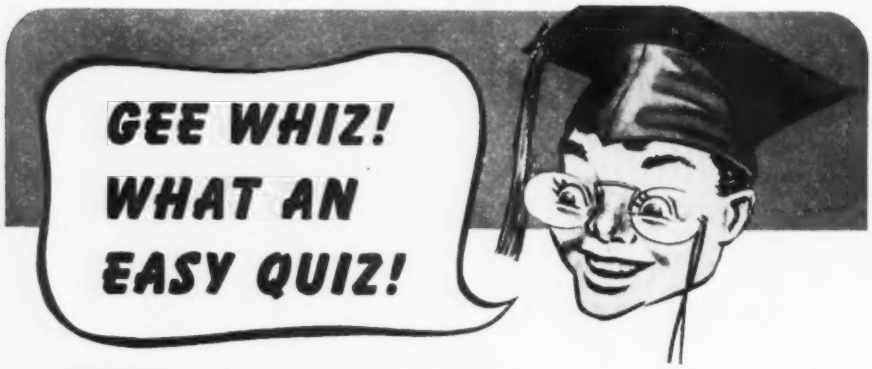
Processing Troubles



Refinite designs and manufactures a complete line of water refining equipment for the textile industry . . . iron removers, softeners, filters, demineralizers . . . simple in design and operation, efficient, and durable. Write, today for literature on Refinite Equipment.

The Refinite Corporation

107 Refinite Bldg., Omaha, Nebraska



QUESTION: What brand of de-sizing agent never fails to give a smooth, flawless performance?

ANSWER: **DIASTAFOR!**

?

Q. What brand of de-sizing agent provides the ideal finish for cottons, mixed goods and rayons?
A. DIASTAFOR!

Q. What brand of de-sizing agent doesn't discolor, impair tensile strength or injure fibres?
A. DIASTAFOR!

Q. What brand of de-sizing agent has been the leader since 1908?
A. DIASTAFOR!

Q. What brand of de-sizing agent is best for *your* needs?
A. DIASTAFOR!

Interested? Get in touch with our technical man or write us today.

FLEISCHMANN'S DIASTAFOR DE-SIZING AGENT
Diastafor Division
STANDARD BRANDS INCORPORATED
595 Madison Ave. New York 22, N. Y.

DIASTAFOR
THIRTY SEVEN YEARS OF SATISFACTORY RESULTS

British Government

(*Continued from page 149*)

assessing work loads made the British worker's productivity far inferior to that of the American operative. British mill equipment, in general, is hopelessly antiquated. The less pleasant working conditions in the cotton mill compared with those in some other British industries, and especially those in American mills, are largely responsible for lack of new entrants into the industry. (Since January of this year there has been a shrinkage of 12,000 in the working forces, despite the fact that in the area from which new help could be recruited more than 170,000 munition workers were laid off.)

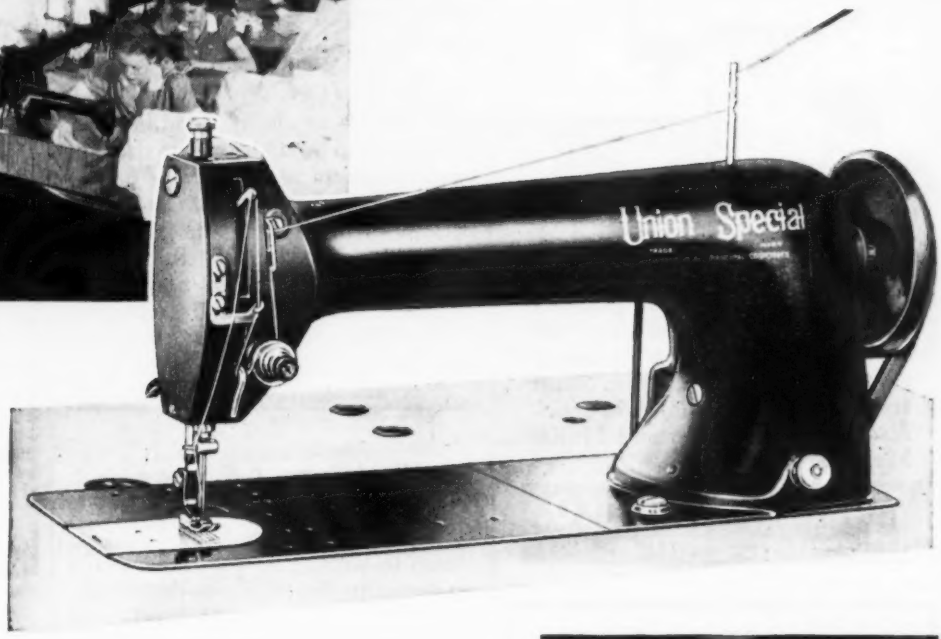
But all these problems were being vigorously attacked, chiefly under the guidance of the efficiently run "Cotton Board" of the industry. Cripp's cure by way of the Working Party is an excrescence. Indeed, it is possible that greater progress had already been made in the betterment of working conditions in th industry in the last four years than in the previous 40.

The pay of the British textile worker now compares favorably with that of workers in other industries and has actually advanced 98% on pre-war levels compared with only 78% for all industries. The labor shortage is being attacked not only by making mill working conditions more attractive with recreational facilities, etc., but also by the appointment of a full-time recruitment officer for the industry as a whole. Training schemes have been established for juveniles (as well as adults) who are paid allowances almost equivalent to full wages, while training.

EXPERIMENTAL MILL. The question of scientific workloads, consonant with peculiar British trade-union wage stipulations, is being attacked in a novel manner. An experimental mill is being run at Wye under the joint supervision of the employers and the trade unions. At this mill, the latest textile machinery is tried both in relation to its efficiency in production and costs as well as in its bearing on workloads and earnings of the operative.

It is hoped by experiments at this pilot mill to facilitate the introduction of new machinery, which trade union practices in the past handicapped. One of the main obstructions is, of course, the fact that the one-shift system prevalent in England makes the installation of modern expensive machinery too costly. Yet in the past, the one shift was almost inevitable; mill work was a family affair where husband and wife worked in the same mill and home

Union Special Class 61300 Lockstitch

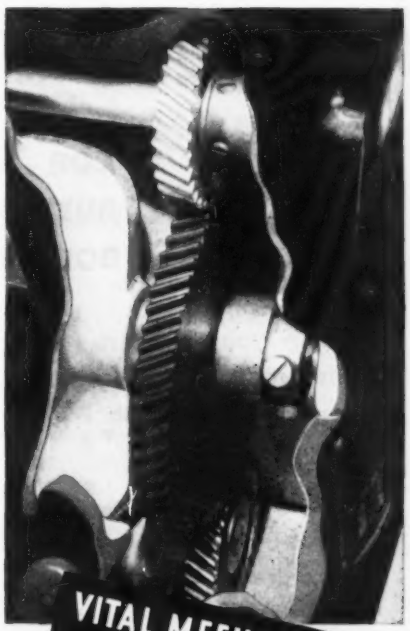


. . . for all plain sewing

Mechanical superiority is the secret of *Lockstitch* popularity. Our engineers designed this *Lockstitch* plain sewer to give long, satisfactory use and unvarying excellence of performance. Sales records are proof of its success. Year after year since its introduction nine years ago, the *Lockstitch* sales curve has climbed steadily upward. Two out of every three machines sold have been repeat orders from satisfied customers.

The *Lockstitch* construction eliminates complicated mechanisms. It is the closest thing to an all rotary machine ever built. The feeding mechanism in this machine, unlike other lockstitch machines, is directly connected to the heavy duty lower main shaft, assuring positive feed for all weights of materials. It has an exclusive lubrication system which is leakproof and effective. The rotary hook drive is sealed and the hook is automatically lubricated.

These features mean higher production, lower costs, less maintenance, faster operation. Write for illustrated literature and details on the Union Special *Lockstitch for every plain sewing operation,* either to your nearest Union Special representative or directly to us.



Union Special Machine Company

486 North Franklin Street • Chicago 10, Illinois

STANDARDIZED
MATERIALS HANDLING
EQUIPMENT

LOAD-CARRIERS
SEND FOR LOAD-CARRIER
MANUAL No. 1003MH

Standardized Load - Carriers, equipped with deep stake pockets at each corner make possible the complete conversion of the truck by the addition of standard accessories. Custom built trucks are also available in stainless steel, aluminum and Monel Metal.

MARKET FORGE CO.
85 GARVEY ST., EVERETT 49, MASS.

LAZENBY

WINDERS
● COP
● BUTT
● BOBBIN

KEEP your machines at top production with Maintenance and Repair Parts from our stock.

And because Genuine Lazenby Parts are manufactured according to specifications and design drawings, correct fit and satisfactory operation are assured.

F. A. LAZENBY & CO.
31 E. Lee St. Baltimore, Md.

life was dependent on the one simultaneous shift. A higher standard of wage resulting from installation of modern machinery will enable the wife to stay at home and make the operation of two shifts easier when the operatives are preponderately males or female juveniles without home responsibilities.

Of course, to a large extent the solicitude of the present socialist government for the welfare of the cotton-textile industry is largely the industry's own fault. Before the present war, it failed to set its house in order and almost begged the government to take it over. The result was the Cotton Reorganization Act of 1939, which governmentally regulated conditions of entrance into the industry, its size, and fixed minimum prices.

The act was never put into effect because of the war. In the meantime, Lancashire has learned the lesson, chiefly from the United States, that technical efficiency and enterprise rather than government protection is the way to meet world competition.

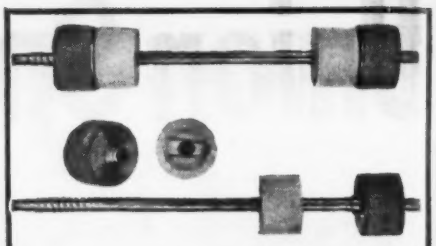
Textile Wage Advance

(*Continued from page 137*)

owned by workers in most other major American industries.

On the whole as compared with other American industries and as compared with the non-industrial communities near then, the Southern textile mill villages show most favorably. Clean streets, sewer, running water, electric lights, parks, playgrounds, swimming pools, adequate hospital, school, and church facilities abound and are the rule rather than the exception. These factors, added to splendid climate, healthful altitude, trees, flowers, fresh gardens, cows, and poultry with abundance of room, sunshine and fresh air, indicate that the living conditions of the Southern textile workers are superior to other regions. For industrial communities, the Southern textile villages are well above the average and many of them stand at or near the top in esthetics, sanitation, sobriety, security, and comfort. Recreation is well organized. Sports abound in well organized leagues. There is ample time after the eight hours of daily work to afford a full community life, some social contacts, the church, the movies, and other cultural influences.

Considering the living conditions and the living standards of the Southern textile worker and his community it is reasonable to make two observations: (1) Neither is sub-standard; (2) Wages adequately enable him

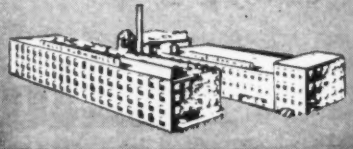


SPACER-BOBBIN
SPINDLE

Adaptable to long or short bobbins . . . spacers are self-locking and removable. Spindles made to your specifications so you can use two different length bobbins on the same spindle, on the same machine, without changing the spindle.

Wayne Manufacturing Co.
Honesdale, Pa.
Manufacturers of Textile Mill Supplies

Fallspun
QUALITY
YARNS
FINE WOOLEN
& SPECIALTIES
ESTABLISHED 1904



Falls Yarn Mills
WOONSOCKET RHODE ISLAND

START YOUR FABRIC WITH THE FINISH

Lanaset* RESIN

*Reg. U. S. Pat. Off.

...FOR WOOL SHRINKAGE CONTROL

When you are planning new woolens, consider the advantages of LANASET*—the melamine resin that controls shrinkage, reduces felting to a minimum. Built into your fabrics as an integral part of them, LANASET enables you to offer to the trade woolens that are truly washable. At the same time, absorbency, warmth, and the other desirable characteristics of fine woolens and worsteds are maintained.

Our technical staff will be glad to consult with you in planning fabric constructions and finishes so that best results with LANASET may be obtained. Mills are invited to send us samples of woolens in the development stage for advice on LANASET treatment.

AMERICAN CYANAMID COMPANY
TEXTILE RESIN DEPARTMENT
BOUND BROOK, NEW JERSEY

New York • Boston • Philadelphia • Providence • Charlotte • Chicago

*LANASET is a registered trade-mark of American Cyanamid Company applied to its melamine resin for controlling wool shrinkage. The process under which it is applied is covered by United States re-issue Patent No. 22,566.

QUALITY RICHMOND PRODUCTS

Less
Handling with
AFTER CHLOR
eliminates
3 to 5 handlings

Bleach with
HYPOCHLORITE
Rinse and Use
AFTER-CHLOR
Safe for Rayons Too

Write for FREE Sample—
enough for a Trial Run
Our Technical Department
is at your Service

RICHMOND OIL, SOAP
& CHEMICAL CO., Inc.
1041-43 FRANKFORD AVE.
PHILADELPHIA 25, PA.

Order now
your Postwar
YARN THROWING
MACHINES

Only the most modern yarn Throwing Equipment will be able to compete in the postwar textile era. Many have already ordered our postwar Yarn Throwing Machines. Act now. Our engineering department is at your service.

Consider These Products.

U. S. ACME TWISTERS for spool or headless package.

U. S. JUMBO FACE DRIVE TWISTERS for large Headless Package work.

U. S. ACME DOUBLE-TWISTERS—large Package.

U. S. REDRAWS and SPOOLERS.

U.S. TEXTILE MACHINE CO.
SCRANTON 9, PENNSYLVANIA, U. S. A.

to afford standards of living which are in keeping with the level of society which he has chosen and in which he lives happily.

TEXTILE PRICES AND WAGES. The element in the industrial picture which more seriously affects the wage structure is the matter of the price obtained for the sale of the product manufactured. The lower the price and the narrower the margin, the more difficult it is for the industry to afford a higher wage structure. In the case of Southern textiles, the industry has operated in what is commonly known as a buyer's market, for the greater portion of its history. Wages represent a relatively large percentage of the cotton-mill dollar, usually between 25 and 35%. An increase in other elements of cost in the cotton-mill dollar such as raw material, supplies, taxes, all have a definite effect upon the element of cost which is represented by wages, and any decrease in the total revenue from sales of the product will obviously pinch all elements of cost.

Thus, proper consideration of an adequate wage structure in the Southern textile industry necessarily involves the consideration of the price of raw cotton which has increased from 9¢ to 23¢ during the war period, taxes which also have greatly increased, supplies which have also increased, and the prices for goods which the market will afford. Currently the prices are set by OPA, and they are not set quickly enough to reflect rising costs.

Any abnormal increase in the cost of production due to wages will obviously jeopardize the future of the industry as it passes through the lean periods which are inevitably ahead. Any step which jeopardizes the future of the industry, whether it be higher wages or other factors, simultaneously jeopardizes the permanency of the worker's employment. According to the Federal Trade Commission report of 1936 the cost of all materials in cotton textile manufacturing was 45.2¢ out of a dollar, leaving a gross margin of 54.8¢. Out of this margin came the labor cost of 25.4¢, other expenses including taxes, power, supplies, etc., 20.9¢, leaving a net profit for interest on investment of 4½¢ out of the dollar. Since that time, all the elements of cost have greatly increased at the expense of net profit to the point where unless there is a striking increase in revenue from sales, the industry is not in a position to absorb any material increase in any of its elements of cost.

Any increases in wage cost which are too drastic will be immediately re-

(Continued on page 238)

What Makes A Mailing Click?

● Advertising men agree —the list is more than half the story.

McGraw-Hill Mailing Lists, used by leading manufacturers and industrial service organizations, direct your advertising and sales promotional efforts to key purchasing power. They offer thorough horizontal and vertical coverage of major markets, including new personnel and plants. Selections may be made to fit your own special requirements.

New names are added to every McGraw-Hill list daily. List revisions are made on a twenty-four hour basis. And all names are guaranteed accurate within two per cent.

In view of present day difficulties in maintaining your own mailing lists, this efficient personalized service is particularly important in securing the comprehensive market coverage you need and want. Ask for more detailed information today. You'll probably be surprised at the low over-all cost and the tested effectiveness of these hand-picked selections.

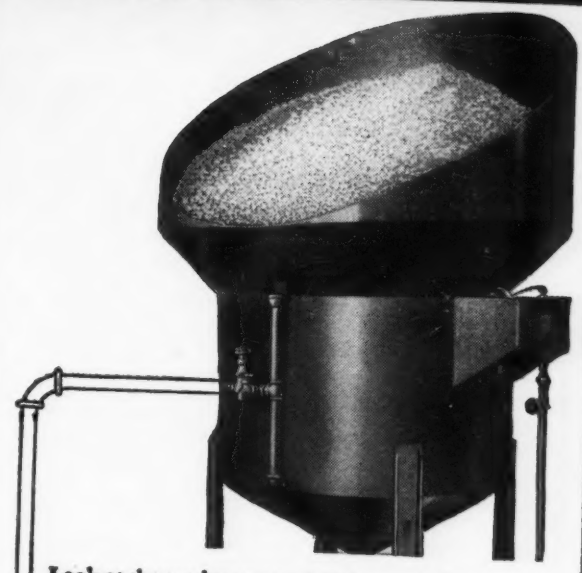
McGraw-Hill Publishing Co., Inc.
DIRECT MAIL DIVISION
330 WEST 42nd ST.
NEW YORK 18, N. Y.

DOES THIS WASTE OF MAN-HOURS EAT UP THE PROFITS IN YOUR PLANT?

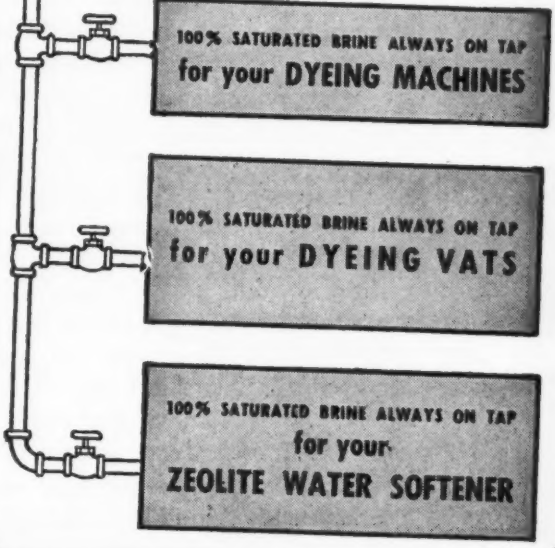
Follow this worker and count the steps wasted

HERE'S LOST MOTION No. 1
TIME WASTED SHOVELING SALT
AND THEN BEGINS
THE LONG HAUL . . .
LOSSES BY SPILLAGE MEAN
THE SLOW LEAK OF MANY $ $ $
ACCIDENTS ON SLIPPERY FLOORS
TAKE THEIR TOLL, TOO . . .
MORE BACK-STRAINING . . .
MORE DELAY . . . MORE WASTE . . .
THAT CAN BE ELIMINATED
LABORIOUS STIRRING
OF THE BRINE . . .
WITH UNCERTAIN SATURATION
AND YOU HAVE TO REPEAT THIS LABOR-WASTING
PROCESS FOR EVERY BATCH OF BRINE!

AUTOMATIC FREE-FLOWING BRINE SAVES WASTE!



Look at these advantages the Lixator brings you. *100% saturated,* free-flowing brine of *crystal clarity!* Economy in its gravity flow . . . in its mechanical perfection . . . in savings up to 20% . . . and in its utilization of economical Sterling Rock Salt! And remember—Lixate brine exceeds the most exacting chemical purity requirements.


100% SATURATED BRINE ALWAYS ON TAP
for your DYEING MACHINES
100% SATURATED BRINE ALWAYS ON TAP
for your DYEING VATS
100% SATURATED BRINE ALWAYS ON TAP
for your
ZEOLITE WATER SOFTENER

The LIXATE Process *for making brine*

★ ★ ★

INTERNATIONAL SALT COMPANY, INC.
Scranton, Pa.

A "MUST" IN HELPING YOU CUT COSTS—THIS *FREE* BOOKLET! The Lixate process for making brine is explained in fullest detail, simply and comprehensively, in this 36-page, fully illustrated booklet. It's studded with helpful diagrams, formulas, brine tables and illustrations of Lixator installations to meet many different specifications and requirements. There's a copy for *you*—without charge, and of course without obligation. Write today!

International Salt Company, Inc.
Dept TW-11, Scranton, Pa.

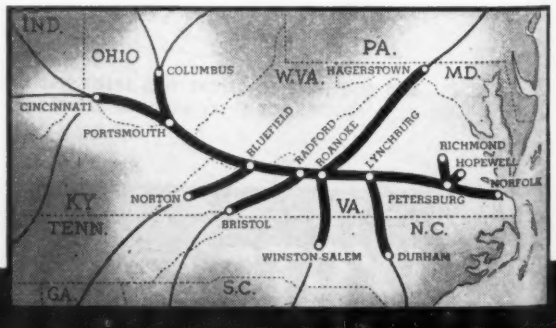
☐ **Send free copy of "The Lixate Process for Making Brine"**
☐ **Have your field engineer call**

*Name*_____
*Firm*_____
*City*_____ *State*_____

Let's get down to brass tacks and talk turkey. The war is over. We are facing days of reconversion. Peacetime goods must be produced in tremendous volume. Competition will be keen. Fast, safe, efficient rail transportation is an absolute essential to successful postwar production and selling. The Norfolk and Western Railway is equipped and ready to move your merchandise in any required volume.

Seventy-five per cent of this railroad's traffic is moved by modern locomotives less than ten years old, or locomotives that have been completely modernized within that period. Cars are clean and sturdy. Track is maintained in a high state of excellence—solid, strong and smooth. The terminals and yard facilities are modern and extensive. Manpower is more experienced and efficient from lessons learned during the war. There will be no let up on the N. & W. . . . service will continue to improve.

Ideal plant sites are available in the productive territory served by the Norfolk and Western. Telephone or write the railway's Industrial and Agricultural Department at Roanoke, Va., for information on the location or relocation of your textile plant.



Norfolk and Western

RAILWAY

For Better Plant Locations

The Big Parade has started for

IS YOUR PLANT READY?

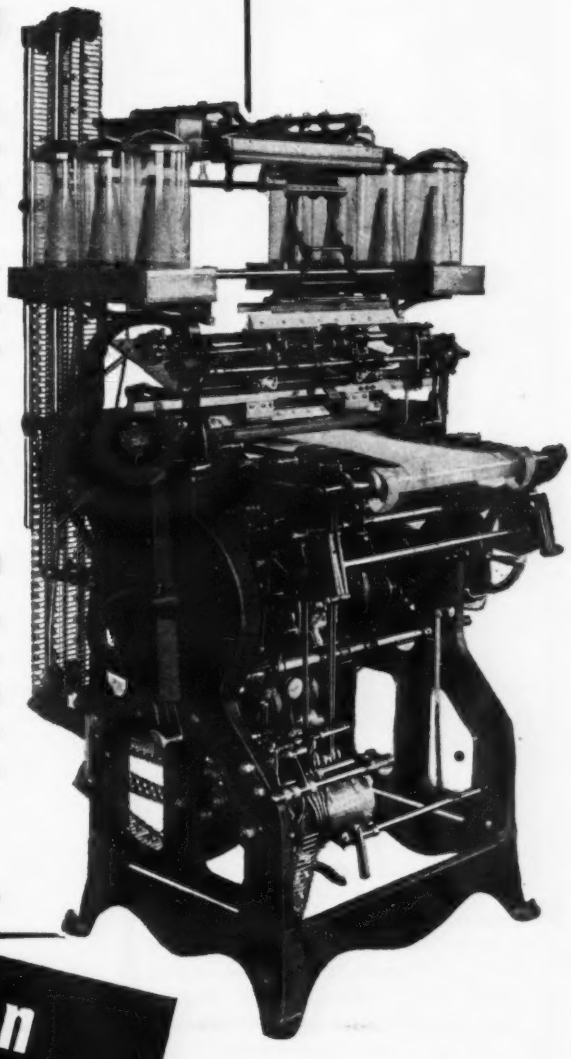
When the pent-up desire for sheer stockings—held back for all of the war years—is finally released, it will create the greatest demand the hosiery industry has ever experienced.

The sooner your plant is made ready to exceed your greatest past production figures by a substantial percentage, the quicker you will be ready to meet the stiff competition of 1946.

Here is a famous machine that is stepping up volume at a rapid pace in hosiery mills throughout the country because it

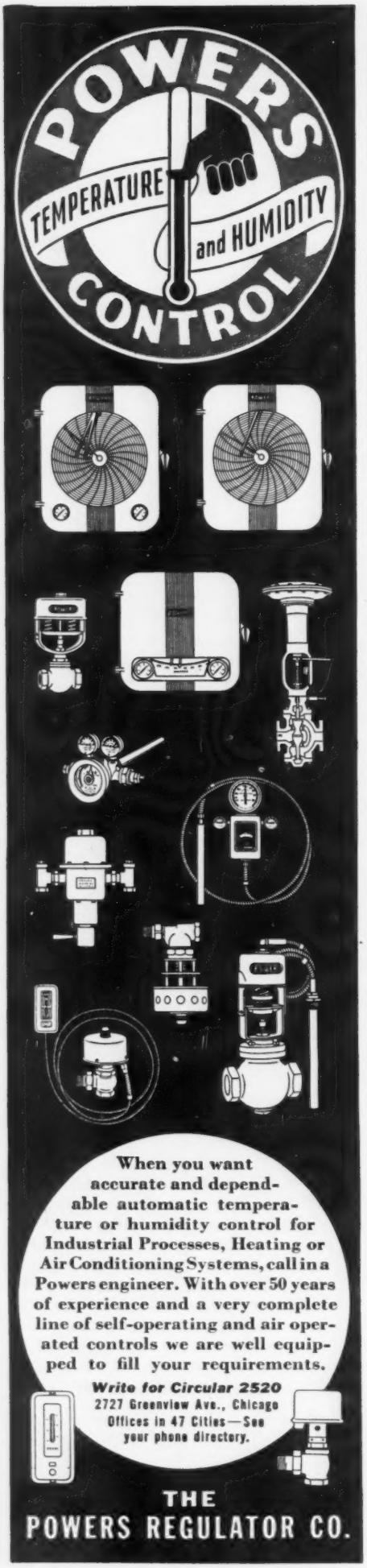
KNITS THE ENTIRE STOCKING IN ONE OPERATION

This saves the time and labor ordinarily wasted in the change-over from leggers to footers, and adds a further economy by eliminating the bad matching and "seconds" of the old-fashioned method. There are many other exclusive features offered by this machine that we should like to tell you about.



WILDMAN MFG. CO. **Norristown, Pa.**

WILDMAN
Single-Head, Single-Unit, Full-Fashioned
HOSIERY MACHINE


POWERS
TEMPERATURE and HUMIDITY
CONTROL
When you want accurate and dependable automatic temperature or humidity control for Industrial Processes, Heating or Air Conditioning Systems, call in a Powers engineer. With over 50 years of experience and a very complete line of self-operating and air operated controls we are well equipped to fill your requirements.
Write for Circular 2520
2727 Greenview Ave., Chicago
Offices in 47 Cities—See your phone directory.
THE
POWERS REGULATOR CO.

(*Continued from page 234*)

flected in a future decrease in cotton consumption or further liquidation of spindles. As the liquidation of American spindles continues, the industry is undergoing the third exodus of cotton textiles. The first exodus was from Old England to New England. The second exodus was, and in a small way still is, from New England to the South. The third exodus, retarded temporarily by the war, is from the South to the Orient and to South America. Already a number of southern mills have been sold to foreign interests and are awaiting official approval for dismantling and export. A resumption of this trend can be very serious.

Another factor which has an unusual influence on the wage of an industry is that of the degree of apprenticeship, experience, education, and skill required. In this respect the exactions of textile manufacturing are comparatively low. No education is required in the training of spinners, weavers, or carders in textiles, and, with the exception of loomfixers, most of the textile operations can be learned within the course of a few months. The textile worker therefore does not have to make an extensive investment in preparation for his profession.

If the establishment of an unusually high minimum wage upsets the economy of the region it may do more harm than good. If, for instance, the farmers are unable to pay a minimum wage competitive with the minimum wage of the textile industry which is located in the farming regions, it means that they will have great difficulty in the harvesting and replanting of their crops. In the case of Southern textiles, the chief competition from a labor standpoint is farm labor. Wages of the farm worker were unusually small in comparison with the textile worker. The competitive handicap is already there. A future increase in textile minima may throw the economy of this region still further out of balance.

COMPETITIVE INDUSTRY WAGES. To hold its own in the picture, an industry should pay a wage rate commensurate with its position in the area in which it operates. In June, 1944, according to the North Carolina Department of Labor the average hourly earnings of workers in plants manufacturing cotton goods was 62.6¢. In amount per hour this is the tenth highest among all North Carolina industries, and below it are listed 13 classifications. Another comparison of importance is a comparison of the wage schedule in America with foreign countries. Hourly earnings of the Southern textile worker before the war was more than twice as high as the textile wages in Great Britain, four times as high as the wages in Japan, and almost ten times as great as the wages in China.

The currently proposed legislation providing for increases in minima upon such a high basis, combined with the legislative suggestions for federal determination of differentials between wage classifications is *tantamount* to the fixing of a wage structure. There is a very definite question as to whether the setting of a wage structure is really the function of the government.

TRI Research Finding

(*Continued from page 125*)

possibly in special cases; but the fibers have been important in structural studies."

"The unbranched component of starch," he continued, "is preferentially and tightly bound to cellulose. It has been reported that the branched component is highly preferable in paper sizing. It seems likely that this has to do with the ease of crystallization, or at least orientation, of the unbranched component on cellulose. The type of behavior of the two components is an interesting problem with respect to fiber-sizing with starch. It is likely that X-ray structure studies will be important in providing a solution."

A method of correlation of equilibrium moisture regain in textile fibers was described by John C. Whitwell, of Princeton and the Institute staff. He reported that the effect of relative humidity and temperature on moisture regain in textile fibers studied by graphical analysis produced excellent correlation. Extrapolations to regions not covered by the data appear to be entirely satisfactory. On the plot used, lines of constant moisture regain for each fiber may be extended to a common point of intersection. The coordinates can be located at least qualitatively from a knowledge of the chemical structure and the swelling behavior. It is therefore possible, with a reduced amount of experimental data, to make predictions of the moisture relations in fibers not previously tested.

Tribute to Dr. Smith

At the business session of the TRI meeting, members gave a vote of appreciation for the work done by Dr. Harold De Witt Smith. He had asked that he be relieved of the presidency no later than at the annual meeting.

Now... we can get down to SPECIFICATIONS on TEXTILE OILS

● Emery products, including Twitchell Textile Oils, have been accepted as standards of performance because their specifications were built for a specific use.

Now that "tight-supply" is fast becoming an historical phrase, wartime substitutes will disappear and we can talk about the performance in terms of *changed* requirements . . . and can prove it by actual mill runs.

PRODUCT AND USE	*FIBRE: Wool	Worsted	Cotton	Viscose, Cupra-Ammonium	Acetate	Nylon	PROPERTIES: Lubricity	Scourability	Stability	Non-corrosive	Re-wetting	Emulsification	Uniformity
TWITCHELL OIL MC Self-emulsifying, stable lubricant for carding, combing, spinning worsted stocks excellent for worsted knitting yarns	✓	✓					✓	✓	✓	✓		✓	✓
TWITCHELL WOOL OIL Self-emulsifying, stable lubricant for carding, spinning wool stocks; excellent for wool knitting varns.	✓						✓	✓	✓	✓		✓	✓
TWITCHELL OIL 3x For regular and Sanforized finishes			✓	✓	✓		✓	✓	✓	✓	✓		✓
Emulsifying agent and softener in cotton and synthetic warp sizes.			✓	✓	✓				✓			✓	✓
Excellent for increasing water absorbency of toweling, paper maker's felts, etc.	✓		✓						✓		✓		✓
TWITCHELL OIL 681 & 685 For coning of weaving and knitting yarns for all rayon and mixed fabrics.				✓	✓	✓	✓	✓	✓	✓		✓	✓
TWITCHELL OIL 687 For the processing of rayon yarns for knitting and weaving, warp sizing, throwing of crepe yarns, etc				✓	✓	✓	✓	✓	✓	✓		✓	✓
OLEIC ACID (Red Oil) Emery's Elaines available over a wide range of specifications for all Textile uses.	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓
STEARIC ACID For Fatty base softeners and finishes.			✓	✓	✓	✓	✓	✓	✓				✓

*Above oils are applicable to mixed yarns and fabrics, selection depending upon content of mix. Shaded portions indicate the more important characteristics.

EMERY INDUSTRIES, Inc.

STEARIC ACID • OLEIC ACID • ANIMAL, VEGETABLE and FISH OIL FATTY ACIDS • TWITCHELL PRODUCTS • PLASTICIZERS

4300 CAREW TOWER • CINCINNATI 2, OHIO

3002 Woolworth Bldg., New York 7, N. Y.

187 Perry St., Lowell, Mass. • 401 N. Broad St., Philadelphia 8, Pa.

Symbol of Quality

JOHNSON Health-aire PRODUCTS

Climate as you Like it

NOT mere words . . . but a trade mark backed by 25 years of constant research, experiment and improvement. This cumulative "know-how" is inserted into all Johnson Health-aire Propeller Fans and Blowers, assuring customers of full value and guaranteeing perfection in workmanship. Look for the name Health-aire when you buy ventilating equipment, it is truly a Symbol of Quality.

Johnson Fan & Blower Corp.

1321 West Lake Street Chicago 7, Illinois

It's a
NEW
SCIENCE
Optonics
THE FUNCTION OF
COLOR
IN INDUSTRIAL
PAINTING

SEND FOR THIS Booklet

The Optonic Color System is based on the newly developed science of using color FUNCTIONALLY in industrial painting — to improve production, safety conditions, and employee morale. It is fully described in a new book — "Color Power for Industry." A note on your business letterhead will bring you a copy with our compliments.

THE ARCO COMPANY
CLEVELAND, OHIO • LOS ANGELES, CALIF.

ARCO
Paints for Industry

Handling FIBER BLENDS on Cotton System

HIGHLIGHTS: *Blending is only process in handling synthetics on cotton system that offers difficulty—With proper drafting equipment spinning of synthetics should be cheaper than cotton—Woolen yarns produced on cotton system utilizing two drawing and one roving processes prior to spinning.*

By EUGENE C. GWALTNEY
Director of Research, Saco-Lowell Shops, Biddeford, Me.

EXCEPT FOR THE PRESENCE OF STATIC ELECTRICITY, which is more common in synthetics than in cotton, the spinning of synthetic fibers presents fewer problems than encountered with cotton. The staple producers have however largely eliminated static by the treatment or finish they give their product. Picking, which is needed only to prepare a lap to feed the card, should be the absolute minimum to produce an even sheet. If the Bramwell feeder would feed the card as uniformly as a well-made lap, the picker could be eliminated. The Bramwell attachment costs more and feeds with less uniformity. All spiked feed aprons tend to segregate stocks in a well-made blend. As most synthetic yarns are made from blends of two or more fibers, the ideal way of preparing the lap would be by the elimination of all spiked aprons after blend is made.

A foolproof and adequate system should be available soon. Many blends are cross-dyed and require a high degree of perfection in the blending system to avoid filling bard.

CARDING IS EASY. Carding synthetics is relatively easy. The fibers are more rigid than cotton and can be carded faster, though the finer deniers must be carded more slowly in order to avoid damage and neps. The coarser deniers can be carded at a greater speed than even the shortest cotton. Both roller and flat cards are used successfully. The roller card takes out no waste and improves the blending. On the flat card, no matter what the blend, the flats seem to take out a larger amount of the higher priced stock, thus affecting the blend. This has to be considered if the flat strips are used over again.

The setting and grinding of the card follows conventional practice. The card screens should be set very carefully or preferably some of the new screens used to prevent unnecessary loss of good stock. Long-nose feed plates are used on stocks 1⅛ in. or longer. The finer deniers and longer staples require a much slower lickerin speed. About 200 r.p.m. is a good speed for normal carding rates on the medium and fine deniers. It can be increased for the coarser fibers.

The drawing frame follows conventional cotton practice except for wider spread rolls and changes in clearers. It is on drawing that static is most troublesome.

The roving process with any of the new wide-spaced, long-draft systems differs only from cotton by the amount of twist needed. The twist is much lower, decreasing as staple length increases. Spindle speeds are reduced on the 8x4 and smaller roving frames.

The use of condensers between rolls is standard practice today as they greatly reduce roll laps, clearer waste, and fly. Flyers pick up more cat-tails on rayon than cotton, and at times this is quite troublesome. Plating is often resorted to, but a coat of tough, thin lacquer is even more effective. It may be worn off the outside in doffing, but the vital part of the flyer, where the stock runs, is not affected. Enamel or lacquer will produce a flowed-over surface and cover the microscopic

Announcing a forthcoming series of illustrated

SCOTT TESTERS MAINTENANCE DATA SHEETS

to be published in our advertisements in this magazine. These Data Sheets will prove of great practical value to owners of Scott Testers.

SCOTT TESTERS, INC.
Providence, Rhode Island

SCOTT TESTERS MAINTENANCE HAND BOOK

Contents

- **Introduction**
- **Calibration**
- **Head**
  - Bearings
  - Pointer gears
  - Chain
  - Quadrant and Pawls
- **Clamps**
  - Surfaces, fabric and cord clamps
  - Replaceable inserts for wire clamps
  - Lubrication
  - Alignment
- **Gear Box**
  - Lubrication
  - Belt
- **Recorder**
  - Pen slide
  - Lubrication

Would you INVEST IN THE FUTURE OF YOUR INDUSTRY?

Showing a corner of the library, which is well-stocked with books relating to technical subjects in the textile industry.

Using the Fade-ometer at the Philadelphia Textile Institute. One of five such instruments in the country, this device simulates conditions throughout the world that tend to fade fabrics.

Corner of Dyehouse, where various methods of dyeing, package, raw material, and skein, are taught and practiced.

The answer to that question is self-evident. No man enters an industry without having faith in its future, its ability to improve, expand, progress. The textile industry, second American industry in wholesale value of products, and first in terms of employment, has the faith of thousands of individuals. They know the great possibilities arising from war-time developments and pent-up, swollen public demand. But they also know the many problems that beset this sprawling and ever-changing industry—problems that stem from two main factors; lack of trained man-power and inadequate research. The textile industry, which previously trained men drawn from within its own ranks, must now attract them also from the outside. One of the nine institutions—and the oldest—which provides this essential training is the Philadelphia Textile Institute. Its 1945 Building Campaign Fund is a challenge to the members of the Textile Industry . . . for a contribution to this fund is an expression of implied trust in the future of this great industry. More, it is an intangible investment, benefiting each concern in general, and the industry as a whole.

Should this matter interest you, we suggest you contact The Philadelphia Textile Institute Foundation at Broad & Pine Streets, Philadelphia 2, Pa., or National Campaign Headquarters, 66 Leonard St., New York 13, N. Y. They will be glad to furnish you with illustrated booklets and further informational literature.

SCHOLLER BROS., INC., Mfrs. of Textile Soaps, Softeners, Oils, Finishes
Collins & Westmoreland Streets, Philadelphia 34, Pa. • St. Catharines, Ontario, Canada

LUBRICATION SERVICE FOR MACHINERY USERS

The manufacturer of machinery using LUBRIPLATE for initial lubrication wants the machine operator to continue to use it for service lubrication. LUBRIPLATE is the best lubricant for the job. That is why it was used in the first place. To assure you of a convenient source of supply of LUBRIPLATE, the machine manufacturer put a tag with a postcard on the machine before he shipped it. Tear off the postcard, fill in your name and address and mail it to us. We will notify you of the name and address of the nearest LUBRIPLATE Dealer and see that he calls on you.

℞ FOR YOUR MACHINERY

No. 3—Ideal for general oil type lubrication. Ring oiled bearings, wick feeds, sight feeds and bottle oilers.

No. 8—Because of its high film strength and long life reflects outstanding performance in most types of enclosed gears (speed reducers).

No. 107—One of the most popular grease type products for general application by pressure gun or cups.

No. 70—For a wide range of grease applications, especially at temperatures above 200 degrees F.

No. 130-AA—Known nationwide as the superior lubricant for open gears, heavy duty bearings, wire rope, etc.

BALL BEARING—This is the LUBRIPLATE lubricant that has achieved wide acclaim for use in the general run of ball and roller bearings operating at speeds to 5000 RPM and temperatures up to 300 degrees F.

Write for a booklet, "The LUBRIPLATE Film written especially for your industry.

LUBRIPLATE

PISKE BROTHERS REFINING CO.

NEWARK 3, N. J.
TOLEDO 3, OHIO

roughness that cause this trouble better than plating.

The spinning of synthetics, with the proper drafting equipment, should be even cheaper than cotton. Spindle speeds are lower due to lower twist; and, usually, ring sizes can be larger, due to lower traveler speeds. This results in lower costs in doffing and winding. Drafts can be higher as the greater uniformity of the fibers makes drafting less critical. Longer drafts create more fly and waste unless condensers are used.

A few comments might be helpful to those changing from cotton to synthetics. Don't make an easy task hard. It really is not too difficult except for blending. While many mills have greatly improved their blending by going back to two process picking, the extra beating does the stock no good. Every beating adds neps. A perfect system of blending and one-process picking to form a good sheet is the ideal way to prepare a lap for the card. Roll laps and clearer waste can be largely overcome by the use of suitable condensers. An adequate control of temperature and humidity is most necessary if static becomes troublesome.

STAPLE LENGTH. It is generally believed that the longer we go in staple length, the greater the cost and the less the efficiency in spinning. Going from 2½ in. to 3 in. in staple, usually results in more lap ups and clearer troubles, and in most cases does not give enough increase in strength to justify the change. Little, if any, 3-in. staple is used on the cotton system except experimentally.

A mill properly equipped, with help trained to the new fibers, should spin yarn from synthetics on the cotton system with larger packages, lower spindle speeds and higher roller speeds with a consequent saving in labor and power.

PROCESSING WOOL ON THE COTTON SYSTEM. Tops of the finer grades of wool, not over 4 in. in length, have been spun into acceptable yarns, putting the top first through two drawing processes, then one or two roving processes, and then spinning into yarn. Except for the long-range variations in the average top; very good, even yarns can be spun with only one process of roving.

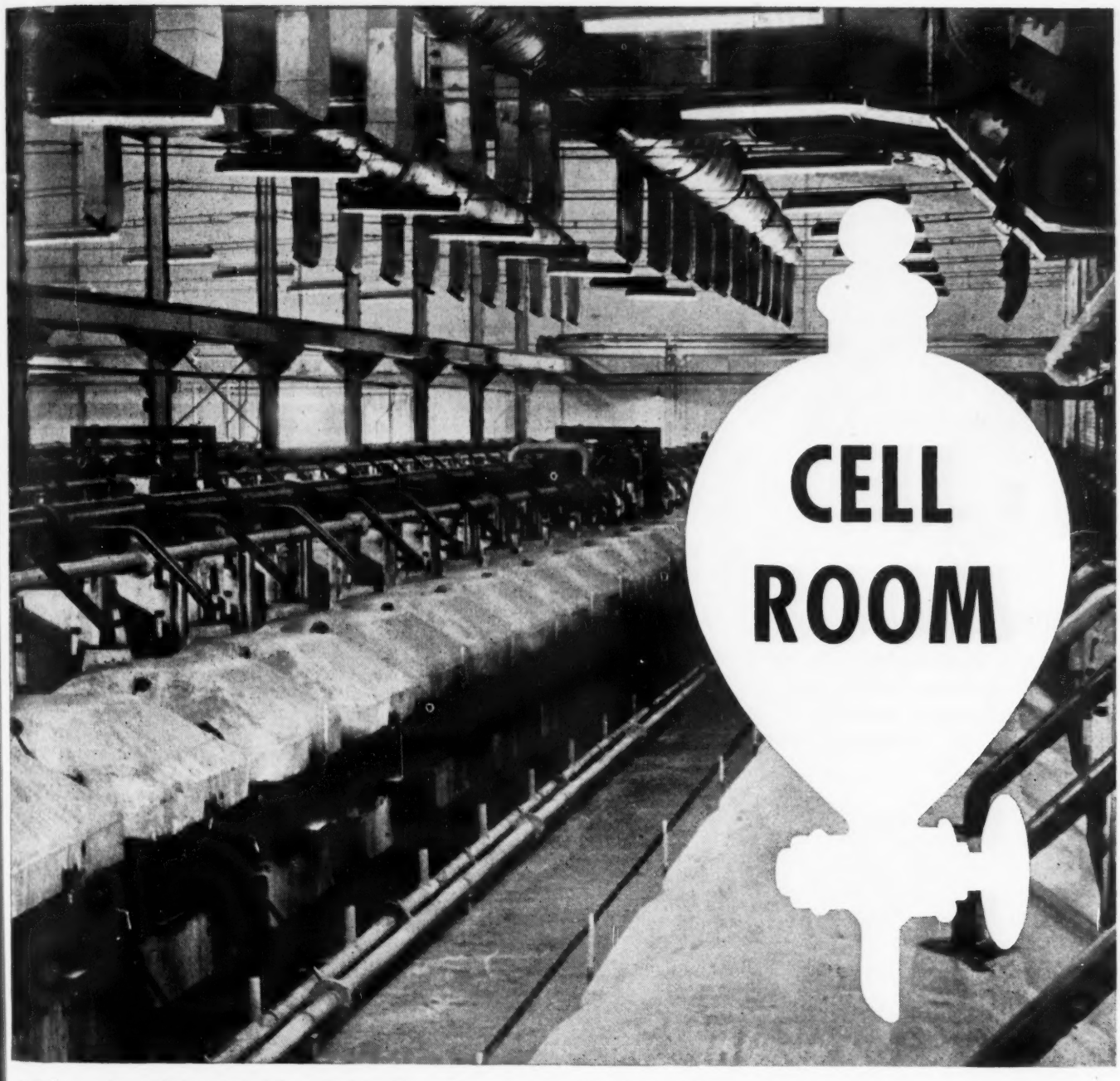
If yarns of standard quality are to be produced on such a very short process, more attention will have to be given to the manufacture of level tops than is now the custom. The roving and spinning process presents no unusual difficulty when the proper long or controlled draft mechanisms are used. It is probable that the roving tenders and spinners in time can operate as many spindles as they do on cotton or synthetics.

On cotton drawing, static on some tops makes the usual workload out of the question. As wool will not compress like cotton or synthetics, due to its natural resilience, the weight in the sliver can will be much less, and frames will require more frequent doffing with consequent reduction of the number of machines per operative. Static will, no doubt, be largely eliminated, either by chemical treatment or by the application of radio-active material at critical places.

It is almost uncanny to see sliver so charged with static that the electroscope leaves fly apart if brought near it, completely freed of static if the radio-active strip is passed down the sliver about ½ in. away.

Some very attractive yarns have been made from the shorter wools by using double carding on the cotton system. While lacking the parallelization of the fibers obtained from the combed top, the yarns appear to be of such character which, taken with their low cost, should make them of real commercial value. As is usual with double-carded yarns, they have little of the long-range size variation that requires so much doubling and drafting to overcome.

This article is an abstract of the paper presented by Eugene C. Gwaltney before the American Association of Textile Technologists at the Nov. 7 meeting held at the Builders' Club, New York. Harry Riemer, editor, Daily News Record, spoke at the same meeting on his experiences encountered and observations made of the textile and clothing problems in Japan and the Pacific theater of war.



• *Cell room in a Chlorine plant of the Wyandotte Chemicals Corporation at Wyandotte, Michigan. Except for the hum of the enormous electric voltage, stillness reigns here. It's truly a deathly stillness—for Wyandotte Chemicals Corporation Chlorine is at present government-allocated and largely devoted to the uses of war.*

WYANDOTTE CHEMICALS CORPORATION

ONE OF THE WORLD'S GREAT PRODUCERS OF CHEMICALS

SODA ASH
CAUSTIC SODA
BICARBONATE OF SODA
CALCIUM CARBONATE

CALCIUM CHLORIDE
CHLORINE
HYDROGEN
SODIUM ZINCATES

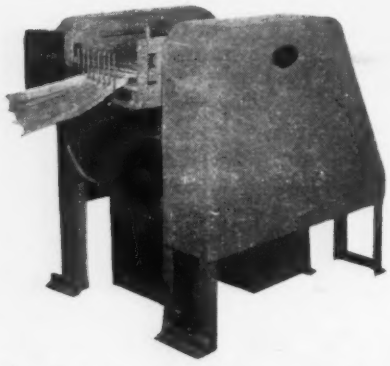
AROMATIC INTERMEDIATES
DRY ICE
Other Organic and
Inorganic Chemicals

WYANDOTTE CHEMICALS CORPORATION
MICHIGAN ALKALI DIVISION • WYANDOTTE, MICHIGAN

Wyandotte
REG. U. S. PAT. OFF.

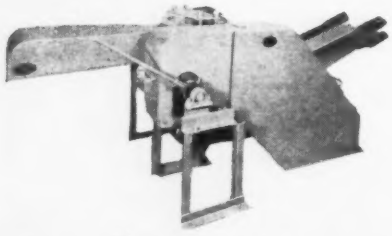
Providing for All Your Textile Cutting Needs

The full line of Taylor-Stiles Textile Cutting Machines includes types especially designed for each kind of textile fiber cutting.



For Cutting Continuous Fibers

(wet or dry). This machine can be set to cut fibers to any exact length, as in making rayon staple or in cutting fibers for blending with other fibers.



For Cutting Tangled Fibers

such as thread waste. We also make flock cutters and rag cutters for making shoddy.

Taylor-Stiles Textile Cutters are made with various capacities to meet individual production requirements.

Send for description of the machine for your specific needs. Send sample of any fiber you wish to cut for demonstration.

TAYLOR-STILES and Company
CUTTING MACHINES & KNIVES

15 Bridge Street, Riegelsville, N. J.

Free FOR THE ASKING

MANUFACTURERS' BULLETINS

READERS interested in literature reviewed on this page may secure copies with time-saving coupon on page 246. Mark what you want on it and send it to Textile World, 330 West 42nd St., New York 18, N. Y. Be sure to give your name and company connections.

1. The use of the microscope as a tool for the study of dyeing problems forms the text of Calco Technical Bulletin No. 770 just announced by Calco Chemical Div., American Cyanamid Co. The bulletin is illustrated with color photomicrographs.

2. "Knitting of Nylon," a 4-page folder containing valuable information for knitting foremen, has been published by Kali Mfg. Co. Practical suggestions on a number of knitting problems such as humidity, lubrication, and cleaning are given.

3. Power consumption of a spinning frame and some of the elements which influence it are discussed in the September issue of *The Saco-Lowell Bulletin*, published by the Saco-Lowell Shops. Data obtained from a number of tests are presented in chart form.

4. Portable vacuum cleaners for use in industrial plants are described in Bulletin F-4 issued by Allen Billmyre Co. The Exidust line of cleaners is described and illustrated.

5. "Color in the Plant," an article appearing in the October issue of the *Du-Pont Magazine*, stresses the fact that color in the plant must be used only for the purpose of increasing efficiency. Colored photographs illustrate several textile plant applications.

6. Leather belts as applied in one large Rhode Island textile mill are described and illustrated in a 4-page folder published by Graton & Knight Co. Technical data on pulleys and belts are given.

7. A weatherproof exhauster which can be mounted on the roof of a building and which is operated by wind is described in Bulletin EX-101 issued by Air Devices, Inc. Many applications of the exhauster are illustrated.

8. Variable speed control for production machines is discussed in a pocket-size booklet published by Reeves Pulley Co. Designed for rapid presentation of text and illustrations, the booklet can be read in 12 minutes.

9. Modern pH and chlorine control and their importance to industry are discussed in an 87-page handbook published by W. A. Taylor & Co. The handbook also includes descriptions of test sets.

10. Friction sawing, said to be a new technique for cutting materials, is described in a new booklet released by the Machine Tool Div. of the DoAll Co. Photographs and charts are used to illustrate the saws, the cutting rate, saw selection, etc.

11. A directory of manufacturers located in San Francisco has been published by the San Francisco Chamber of Commerce. The names, addresses, and types of manufacturing are listed for all local firms.

12. Increasing textile education by a $2,000,000 campaign which it is currently sponsoring is discussed in a brochure published by the Philadelphia Textile Institute Foundation. The brochure is illustrated, and facts are given on the importance of the textile industry to the nation.

13. A self-scouring wool-fiber lubricant, said to be adaptable to all phases of wool processing, is presented in a technical folder issued by L. Sonneborn Sons, Inc. Characteristics of the lubricant and methods of applying it are described.

14. A section-beaming machine for warping filament or spun yarns is described in a folder published by Robert Reiner, Inc. Several features of the machine are mentioned and illustrated with photographs.

15. Removing tramp iron from the lines of textile processing machines by means of a non-electric magnetic separator is discussed in a 4-page illustrated folder published by the Eriez Mfg. Co. Installations of the separators are illustrated and described.

16. A high-pressure steam cleaner for use in a wide range of industrial applications is presented in literature published by the Homestead Valve Mfg. Co. The

O N Y X

A constituent of N.S.A.E.
5—Isopropyl Napthalene Beta
Sodium Sulphonate

N. S. A. E.

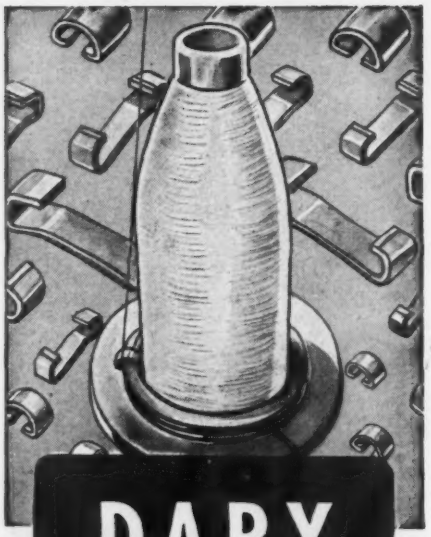
By the ingenious combining of various atoms, Onyx Research is producing products of sterling merit, exceedingly efficient for the processing and finishing of textiles. N.S.A.E. is one of these Onyx products. A powerful penetrant, it possesses in addition, the action of a dispersing agent, emulsifier and colloidal film breaker. N.S.A.E. is highly concentrated, and thus, smaller amounts are required. It is successfully employed in the processing of cotton, wool, rayon, acetate, jute, hemp and leather. Level shades are assured on piece goods, unions and pile fabrics. Exceptionally stable, it is not affected by hard water, acids, caustics or mordanting agents.

Your inquiries are solicited.

35TH ANNIVERSARY YEAR

onyx

ONYX OIL & CHEMICAL COMPANY
JERSEY CITY, N. J.
CHICAGO · PROVIDENCE · CHARLOTTE
IN CANADA: ONYX OIL & CHEMICAL CO., LTD.—MONTREAL, TORONTO, ST. JOHNS, QUE.



D—For Dependability

D—For Dary

The product and its' performance are one and the same. Always Dependable.

This has been so for more than 45 years and spinners and twisters the country over know that famous Dary Ring Travelers give not only dependable but superior performances, *every-time.*

They know too that Dary representatives are as dependable as the products they represent.

Discover Dary dependability for yourself—see a Dary representative today.

DARY

★ PROCESSED ★

SYMBOL OF SUPERIORITY

The DARY RING TRAVELER CO.

TAUNTON, MASSACHUSETTS

JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.

JOHN H. O'NEIL, BOX 720, ATLANTA, GA.

H. REID LOCKMAN, BOX 515, SPARTANBURG, S. C.

FREE FOR THE ASKING

literature includes descriptions, illustrations, and price lists.

17. Corrosion in unit heaters and an explanation of how it is minimized in the Murray line of grid heaters is discussed in a pocket-size booklet issued by the D. J. Murray Mfg. Co. Details of construction which aid corrosion resistance are pointed out.

18. Comparative yarn tables calculated for several yarn-numbering systems and printed on a chart designed for convenience of handling is being issued by the United Yarn Products Co. In addition to yarn numbers, the tables also give rayon-crepe yardage tables.

19. Details of grease manufacture, characteristics, and uses are presented in articles appearing in the May and August, 1945, issues of *Lubrication* published by The Texas Co. The lengthy discussions are illustrated with photographs and tables.

20. A catalog on shuttles, which is said to be something of a textbook because of the thorough manner in which the subject has been treated, has been published by Southern Shuttles Div. Steel Heddle Mfg. Co. The catalog contains 40 pages and is well illustrated.

21. Silver-alloy rings for joining pipe fittings to make them leakproof is the subject of a booklet published by Air Reduction Sales Co. The advantages cited for these rings are illustrated and explained.

22. Roller-chain belts for use as drive belts in industrial plants are described in an 8-page folder distributed by the Baldwin-Duckworth Div. The Chain Belt Co. Belt specifications and prices are given.

23. Floating-disk clutches, provided with patented "separator" springs to prevent drag, abrasion, and heating in neutral, are presented in Catalog No. 45 published by the Carlyle Johnson Machine Co. The clutches are available in three types to meet a variety of industrial needs.

24. A guide for emergency treatment of injured persons in industry is provided in the booklet "Standing Orders for First-Aid Workers in Industry" published by the American Mutual Liability Insurance Co. Supplies, records, arrangements of first-aid rooms, transportation of injured persons, and emergency procedures are discussed.

25. An Index to Calco Technical Bulletins, containing a short abstract of the subject matter of each bulletin, is being issued as Bulletin No. 761 by Calco Chemical Div. American Cyanamid Co. The purpose of the index is to provide the reader with a key to the information contained in the various bulletins.

26. A silicone lubricant which is said to retain its consistency, resist chemicals and water, and to be non-volatile and inert is described in a 4-page folder published by Dow-Corning Corp. The literature contains several comments from users.

27. Paints and coating materials whose solid content is reduced in particle size to 0.001 micron are described in a release by Protective Coatings, Inc. Known as the Alkacite series, the coatings are available in several compositions for different purposes.

PASTE IT ON A POSTCARD

This mailing coupon is a convenient size to paste on a penny postcard. ***Circle the numbers of the catalogs you want*** *which correspond to the numbers on the descriptive paragraphs. Fill out the coupon* ***legibly*** *and* ***completely.*** *Paste it on a postcard, or put it in an envelope if you prefer, and mail it to TEXTILE WORLD, 330 W. 42nd St., New York 18, N. Y.*

MAILING COUPON

TEXTILE WORLD,
330 West 42nd St., New York 18, N. Y.

I have circled below the catalogs I want, as listed in your November, 1945, "Free for the Asking."

1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27

My Name..... Title.....
(PLEASE PRINT)

Company.....

Street..... City & State.....

It's What Hooker Sulfides Haven't Got that Make Them Important to You

COMPARATIVE freedom from heavy metal salts, the negligible amount of iron,—a maximum limit of 5 ppm in Hooker Sodium Sulfhydrate, and a maximum limit of 15 ppm in Hooker Sodium Sulfide—are reasons why these Hooker Chemicals are so popular among dye chemists.

This high purity, consistently maintained in every shipment, makes them especially desirable for use as reducing agents. These sulfides are employed with excellent results for selective reduction of one of several nitro groups in the same molecule. To eliminate the possible harmful effects of iron, Hooker Sulfides are extensively used in the preparation of aminophenol, many of the anthraquinone dyes, including acid, and nitro compounds such as acid Alizarin Blue SE, Developed Dyes, Rapidogen Dyes and Intermediates.

Another way that Hooker Sulfides are used is for the introduction of sulfur in dye manufacture. They also serve as solvents in the removal of excess sulfur from dyes produced by a sulfur fusion.

Because of their high purity, the need for settling, decanting and filtering is minimized and in many cases eliminated altogether, saving time and inconvenience.

Let Hooker Sulfides improve your products, save valuable time and lower your costs.

SODIUM SULFIDE, Na_2S, a light yellow colored solid in flake form, soluble in water, slightly soluble in alcohol, insoluble in ether.

Analysis

Sodium Sulfide	60 to 62%
Sodium Chloride	1.5% Max.
Sodium Salts	2.0% Max.
Iron	15 ppm Max.
All Other Metal Salts	1 ppm Max.
Water of crystallization	36.5 to 34%
Shipping Containers	Drums 90 and 350 lbs. net.

SODIUM SULFHYDRATE, NaSH, a light yellow colored solid in flake form. Soluble in water and alcohol, insoluble in ether.

Analysis

Sodium Sulfhydrate	70 to 72%
Sodium Hydroxide	0%
Sodium Sulfide	0%
Sodium Chloride	1% Max.
Other Sodium Salts	1% Max.
Iron	5 ppm Max.
All Other Metals	1 ppm Max.
Water of Crystallization	28 to 26%
Shipping Containers	Drums 90 and 350 lbs. net.

ARMY E NAVY

Hooker's Technical Staff is ready to work with you on the application of Hooker Chemicals to your processes. Technical Data Sheets and samples of Hooker Sulfides will be sent you when requested on your letterhead.

HOOKER CHEMICALS

8386

HOOKER ELECTROCHEMICAL COMPANY

4 Forty-seventh St. Niagara Falls, New York

New York, N. Y. Tacoma, Wash. Wilmington, Calif.

Chlorine **Caustic Soda** **Muriatic Acid** **Bleaching Powder** **Ferric Chloride** **Paradichlorbenzene**

Both Methods

FOR RAYON and ACETATE YARN DYEING

Skein dyeing for yarns put up in that form and for many specialties.

Package dyeing for yarn from cones or tubes, and where large batches are wanted.

★

Atlantic Rayon CORPORATION

Dyers and Converters of Synthetic Yarns for All Industries

Plant at Providence 1, R. I.

BRANCH OFFICES:
Empire State Bldg., 5th Ave.
New York 1

3701 North Broad St.
Philadelphia 40

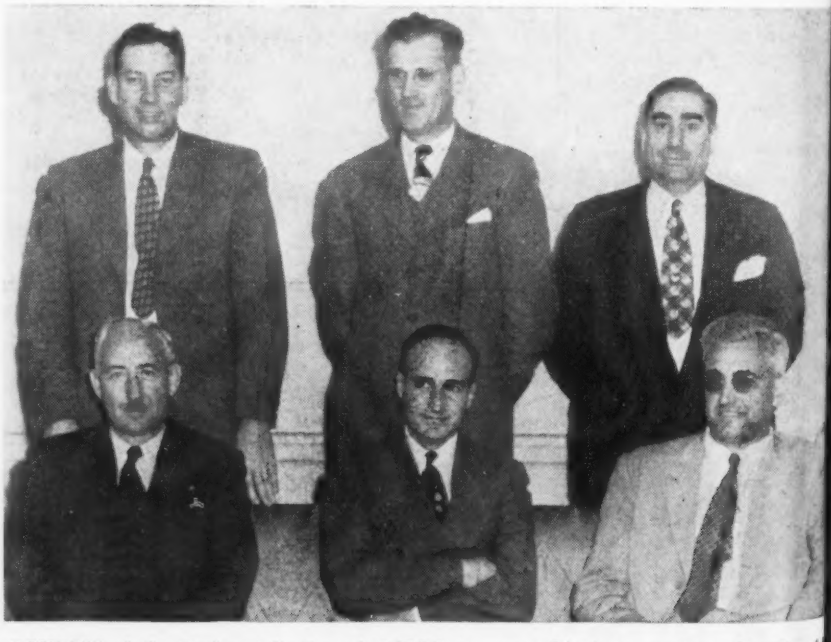
★

News of the month

Destruction of German Textile Machinery. The destruction of the textile industry of Germany during the war has been considerable, according to reports reaching the Department of Commerce. A summary for the combined Northern and Southern zones shows that 2,106,606 cotton spindles were destroyed, or 29%; and 42,306 cotton looms, or 28%. The rayon and silk weaving industry sustained a loss of 11,076 looms, or 32%. The greatest relative damage occurred in the wool-textile industry where 718,076 woolen and worsted spindles were destroyed, equaling 61.5%; and 10,658 woolen looms, or 68%. In addition to actual destruction, machinery loss is a continuing factor, due to exposure and looting. The extent of destruction in the Eastern zone is not known. It may be assumed to be considerable.

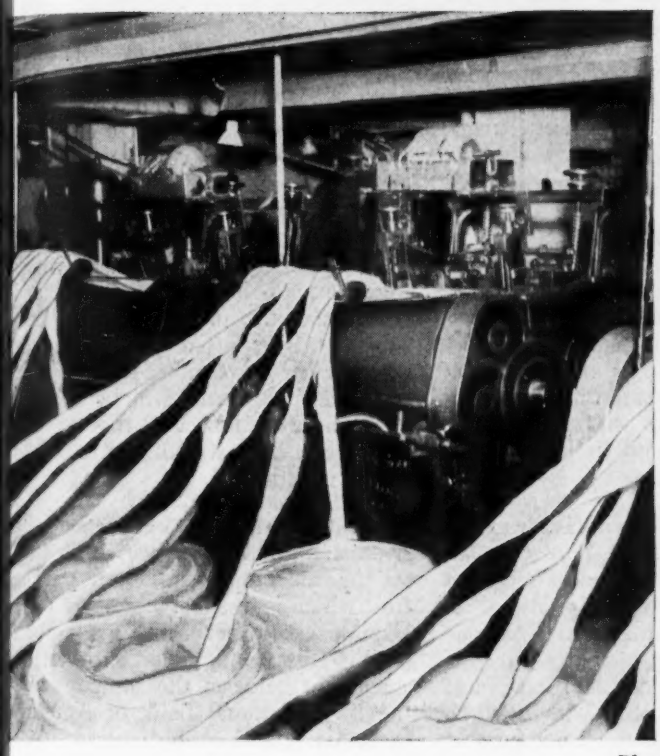
Piedmont Chemists Meet. Leland G. Atkins, of Southern Dyestuff Co. and Wyss L. Barker, of National Aniline Co., were elected chairman and vice chairman respectively of the Piedmont Section of the American Association of Textile Chemists & Colorists at the Victory meeting in Charlotte, N. C., Oct. 13. Counselors selected for the coming year were: retiring chairman Sydney M. Cone, Proximity Print Works, Greensboro, N. C.; Dr. R. E. Rupp, superintendent, Pacific Mills finishing plant, Lyman, S. C. and Samuel L. Hayes, the Ciba Co., Charlotte, N. C. John B. Neeley of Burlington Mills, Greensboro, N. C. was reelected secretary, and A. R. Thompson of the Ciba Co., Charlotte, N. C., was again chosen custodian. Roy L. Beauregard of Fairforest Finishing Co., Spartanburg, S. C. was elected treasurer. Technical symposiums on piece-goods dyeing and hosiery dyeing featured the afternoon session. Leading the first discussion were James Myers, North Carolina Finishing Co., Salisbury, N. C.; R. J. Tyrrell, Riverside & Dan River Cotton Mills, Danville, Va.; and Dr. R. E. Rupp. Chairmen of the hosiery discussion were R. H. Smith, Melrose Hosiery Mills, High Point, N. C., Leon Guigou, Waldensian Hosiery Mills, Valdese, N. C., and W. W. Gluyas, Cloverdale Dye Works, High Point, N. C. Dr. Frederick T. Peirce, formerly of Shirley Institute, Manchester, England, and now director of research at North Carolina State College, Raleigh, N. C., was the principal speaker in the evening. Dr. Peirce's subject was "Textile Science as a Branch of Human Ecology."

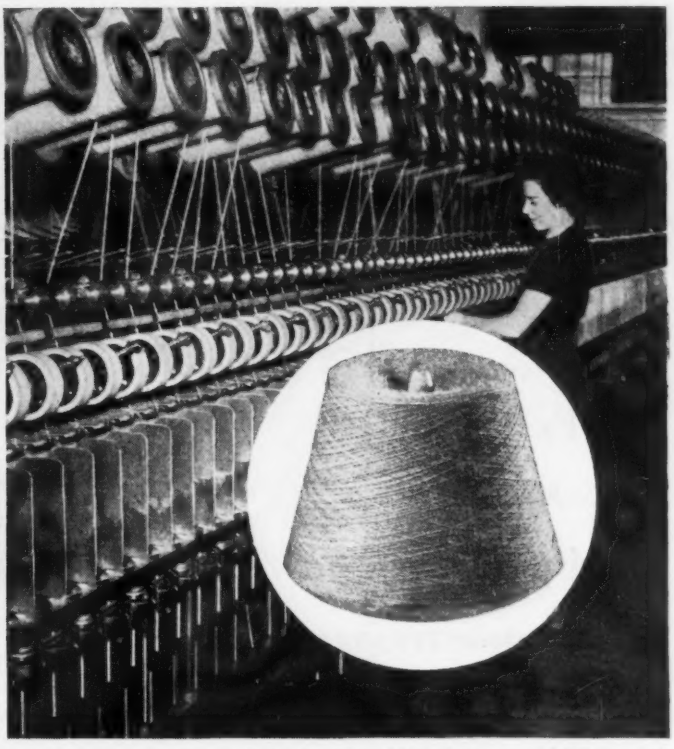
May Supply Rayon Plants for India. Henry Von Kohorn, vice-president of Oscar Kohorn & Co., New York, is making an industrial survey of India



OFFICERS of the Piedmont Section of AATCC at recent Charlotte meeting. Standing, left to right, Leland G. Atkins, newly elected chairman; Henry B. Dixon, councilor; Roy L. Beauregard, treasurer. Sitting, left to right, John B. Neeley, secretary; Sidney M. Cone, retiring chairman; Wyss L. Barker, vice-chairman.

From Gill Box to SPINNING ROOM





Photographs courtesy Caron Spinning Co., Manufacturers of "Korspun"

100% Saponifiable NOPCO CP SOLUBLE helps make top quality yarn

NOPCO CP SOLUBLE combines those properties so necessary for effective—efficient—and economical production through all stages of yarn manufacture. Because this low viscosity oil is easily and thoroughly dispersed in emulsion, it assures uniform lubrication—minimizes fiber breakage—acts as a binder to prevent fly and waste in combing, drafting, and spinning for greater economy. Being 100% saponifiable, Nopco CP Soluble goes far in saving soap costs and labor in scouring time.

OTHER ADVANTAGES! NOPCO CP SOLUBLE imparts a drag equal to that of Olive Oil. Reduces static. Residual oil content usually well under .5%, thus permitting level dyeing and brilliant clear-toned shades. Safe for top, yarn or goods in grey storage and resin finishes for shrinkproofing. Resists oxidation. Leaves no rancid odor in finished goods. Write for more complete information.

NATIONAL OIL PRODUCTS CO., Harrison, New Jersey

Branches:

Boston, Chicago, Cedartown, Ga., Richmond, Calif.

NOPCO CP SOLUBLE

100% Saponifiable Worsted Oil

NOPCO Reg. U. S. Pat. Off.

EVOLVED THROUGH RESEARCH

Other NOPCO CHEMICALS For Textile Processing

Wetting and Rewetting Agents
Waterproofing Compounds
Soaking Treatments Penetrants
Kier Assistants Cationic Type Softeners
Detergents Wax Emulsifiers

New Incentives

speed production now!

and PRODUCTIMETERS

will help you maintain accurate production control as you begin work on that tremendous backlog for post war needs. Throughout various textile processing and manufacture, Productimeters give exact measurement in feet and yards . . . provide records for time study and control . . . they're ruggedly built, precision designed to meet heavy production demands.

Illustrated: High speed Lineal Measuring Counter, Model 5-T-8-1, with swivel jointed bracket, permitting both wheels to ride evenly on the material at all times.

You'll find the Productimeter line complete . . . comprising Rotary, Stroke, Lineal Measuring, and Loom Pick Counters.

Send for Textile Counter Catalogs

Pick Counters, No. 5
Yardage Counters No. 6
Revolution Counters No. 8

DURANT MFG. COMPANY

1931 N. Buffum St.
Milwaukee 1, Wis.

131 Orange St.
Providence 3, R. I.

Model 5-SD-7-1 End Drive Rotary Productimeter . . . small, durable . . . meets a variety of needs.

relating to the installation of rayon yarn plants, according to the *Eastern Economist* of New Delhi. Before the war, India imported most of its rayon yarn from Japan. With the elimination of Japan from competition in that field, there is no reason why India should not be able to build up an indigenous rayon industry, Mr. Kohorn indicated. Most of the chemicals required for the industry are produced there. At first sulphite wood pulp can be imported from Scandinavia, Canada, and the U. S. But later, production may be switched over to Indian cellulose. The services of American chemists, engineers, and foremen will be necessary in the initial stage to operate the plants, but subsequently they could be replaced by trained Indian personnel. The rayon industry has vast potentialities for India and industrialists there look forward to production of high quality yarn with Indian capital, Indian labor, and Indian raw materials.

New Textile Association. Trade executives meeting at New York on Oct. 23 ushered in a new trade association to be known as the Upholstery & Drapery Fabric Manufacturers Association. A temporary board of directors and officers were elected to serve until the first annual meeting which will be held in New York the early part of December. Permanent offices will be set up in New York and a paid executive appointed who will devote his entire time to the affairs of the association. Directors elected are: Albert J. Bartson, Albert J. Bartson, Inc.; Harold W. Burton, Moss Rose Mfg. Co.; H. E. Carls, Neisler Mills, Inc.; Melvin H. Deutsch, Cohn-Hall-Marx Co.; P. W. Fowler, Blackstone Plush Mills, Inc.; V. T. Harper, Sidney Blumenthal & Co., Inc.; Allen S. Hatcher, Northampton Textile Co.; R. C. Hinchman, Mercer Textile Co.; Jos. A. Kaufman, Kaufman Plush Co.; Robert E. Nicholson, La France Industries; R. H. Rabbitt, Jordan Mills, Inc.; M. H. Stern, Albermarle Weaving Co.; H. A. Sobel, Quaker Pile Fabric Corp.; Wm. C. Torkington, Southern Pile Fabric Co., Inc.; and Jud E. Williams, Goodall Fabrics, Inc. Mr. Nicholson was elected chairman and Mr. Hinchman, secretary.

Synthetic Fiber Production in Germany. The production of synthetic fiber increased greatly in Germany during the war, necessitated by the lack of natural fibers such as cotton and wool. Reports obtained by the Department of Commerce show that synthetic staple-fiber production successively increased from 8,000 metric tons in 1933 to 160,000 tons in 1938, and by 1943 had reached 315,000 tons. Synthetic filament-yarn production also increased, but not so rapidly as did staple fiber. In 1933, filament-yarn production amounted to 30,000 metric tons, by 1938 it reached 62,000 tons, and finally in 1943 it climbed to 102,000 tons. The major types of synthetic fiber produced were Zellwolle "B", cotton-type staple fiber; Zellwolle "S", wool-type staple fiber; and Kunseide, filament yarn. By process, approximately 80% of all synthetic fiber production was viscose, 17% cuprammonium, and 3% acetate. In 1944 there were 32 synthetic staple-fiber plants in all of Germany, 18 of which were located in the Northern and Southern zones, and 14 in the Eastern zone. It is reported that there was considerable damage to these plants, and extensive repairs will be needed. It is thought, however, that all the plants can be restored within six to twelve months.

Avondale Shares Profit as Pension Basis. Avondale Mills, Sylacauga, Ala., have set up an employees' profit-sharing trust which is in effect a pension plan. Eligible employees become members of this trust fund under terms of an agreement between the company and the First National Bank of Birmingham, Ala. No contributions are made by employees. The company contributes annually an amount equal to 5% of its net earnings, before Federal and State income and profits taxes, up to $1,000,000; and 30% of such net earnings in excess of $1,000,000, but the total not exceeding 15% of the total compensation of members in each year. Members receive units or credits on the basis of one for each full year of previous service and one for each $100

DOWN-LIKE, superfine glass fibers, with average diameters as small as 0.00005 in. were used during the war for sound and heat insulation in the B-29's. Sample of this batt of Fiberglas is shown. The heat-insulating properties of the fibers, and their extremely light weight, provide a basis for use as inner linings for comforters, sleeping bags, mittens, hunting jackets and other cold weather, outdoor clothing. The Fiberglas Corp. is exploring the possibility of using the fibers in pillows and mattresses as a replacement for organic materials now used.

For a filament acetate size with HIGH LOOM EFFICIENCY

Try CETASIZE

This high quality protein powder also offers these 6 ADDITIONAL ADVANTAGES

OUR LINE OF TEXTILE STARCHES GUMS, DEXTRINES AND SPECIALTY MATERIALS ALSO INCLUDES:

●

W GUM D and VICTORY K2W GUM
For sizing staple synthetic yarns and blends.

RTF GUM
For laundry resistant finishes.

KAC No. 4 with B2 or SUSSEX GUM
For use in Printing . . . higher color yield.

96R and VELVEEN XX
For sizing cotton.

RTC GUM
For sanforizing and weighting.

CETOSOL SF
For starchless finishes.

SHO-PAL THICKENER and BINDER
For pigment printing and pigment dyeing in water dispersions . . . excellent wash fastness.

1. Complete uniform product.
2. Size easily removed.
3. Runs clean on the machine—no foam.
4. No softeners required.
5. Easily prepared.
6. Replaces other sizing materials which may be difficult to obtain.

An increasing number of plants are enjoying these values in their regular production. Whether you're weaving rayon now or planning to weave it, prove for yourself that CETASIZE is the answer to your filament acetate warp sizing problem.

ORDER A SAMPLE TODAY—
AND ASK FOR A DEMONSTRATION

79 YEARS OF STARCH SERVICE

STEIN SH HALL

285 MADISON AVENUE • NEW YORK 17, N. Y.
2841 SOUTH ASHLAND AVENUE • CHICAGO 8, ILL.
250 VAN HORNE STREET • TORONTO, CANADA

EST. 1866

LABORATORIES AT: NEW YORK
CHICAGO • CHARLOTTE • PROVIDENCE
LONG ISLAND CITY, N. Y.

A TEXTILE STARCH FOR EVERY TEXTILE PURPOSE

Make the most of capabilities you have

for a more successful career
a richer personality
a happier life

Write your own ticket to success and happiness—develop and strengthen your own best qualities to achieve *your* plan for life!

LEARN from this stimulating book quick steps for developing the ten vital personality qualities scientifically proved more important than technical skills in making the most of your life. Learn how to make a workable plan for living. See how you can overcome your handicaps, rid yourself of self-pity and fears, become a positive person directing your abilities and opportunities toward a more successful and happier life.

Just Published!

Make the Most of Your Life

By DOUGLAS LURTON

Whittlesey House Publication

240 pages, 5½ x 8, $2.00

CARVE your own best life with the tools at hand! Here are tests to help you estimate your own personality strength and short-comings — step-by-step methods and vivid examples from the stories of key men in many fields to show the fundamental principles upon which achievement is based.

This book makes it an adventure to analyze and plan your life, and shows you how to make a practical timetable for moving ahead, one step at a time, in the right direction toward control of your destiny—through developing the initiative, originality, imagination, perseverence, enthusiasm, judgment and memory *that you already have.*

Giving you:

10 steps for a workable plan for life
a 3-point program for stick-to-itiveness
3 steps for developing creative imagination
7 musts for the successful leader
a seven-day plan for winning friends
. . . and many other step-by-step programs

See a copy 10 days FREE

Begin now to Make the Most of *Your* Life

Send this on-approval coupon

McGraw-Hill Book Co.,
330 W. 42nd St., New York 18

Send me **Lurton's Make the Most of Your Life** for 10 days' examination, on approval. In 10 days I will send $2.00, plus few cents postage, or return book postpaid. (Postage paid on cash orders.)

Name .....

Address .....

City and State .....

Company .....

Position TW-11-45

(Books sent on approval in U. S. only.)

of the current year's actual compensation received by the member. Payments proportional to the credits are made when employees reach the retiring age of 65, are totally disabled, die, or under other specified conditions. Payment may be lump sum or on annuity basis.

Deering, Milliken Announces Color Film. A narrated color-film showing operations involved in the manufacture of woolen fabrics by the woolen division of Deering, Milliken & Co., was viewed by over 1,400 persons at a dinner given by this company at the Waldorf-Astoria Hotel, New York, Oct 23. This film required one year to make, and is one of the most detailed yet to be produced. It starts with the blending of the wool stock and proceeds through all operations to the final end-uses of the fabrics. The film is available for educational purposes.

Statistics on Sweaters. According to government reports, 552,784 doz. sweaters, knitted jackets, jerseys, and pullovers went into military and civilian wear for men during the first quarter of 1945. During this same period 604,194 doz. went to women's and misses' wear. These figures represent the production of 720 firms.

Dies from Wire Mesh Fabric. Printing, embossing, and pebbling on fabrics may be effected by using inexpensive dies made from Monel wire-mesh fabric by the recently patented Oldofredi process (Patent No. 2,370,-186). These wire dies can be made in any length and width. Effects such as watermarks and moire backgrounds can be achieved by imposing two masters on the same wire-mesh die.

Lists 75 German Synthetic Yarns. German technical information gathered from 20 plants producing synthetic fibers appears in a 224-page report issued last month by the Office of Publication Board, Department of Commerce, Washington, D. C. A summary of this full report was given in New York by L. L. Leach of E. I. du Pont de Nemours & Co., Inc., earlier in the month (TEXTILE WORLD, October, page 139). Properties of over 75 German synthetic yarns are listed in addition to descriptions of plants, processes, materials.

Callaway's 25-Year Club. Callaway Mills, LaGrange, Ga., formed a 25-Year Club last month at a dinner meeting of 25-year men presided over by A. B. Edge, Jr., recently elected Callaway president. An emblem was presented to each employee of 25 years or more of service, and it was announced that members of this group are to receive annually four weeks vacation with pay. R. L. Farrar, of Unity Spinning Plant, was elected first president of the 25-Year Club; T. B. Kersey, of HDV Division, vice president; John D. Harris, of Manchester Plant, secretary and treasurer.

Trion's First 100 Years. Trion Co., Trion, Ga., recently celebrated its 100th birthday with a week of events. Called "Centennial Week", it included a barbecue and a pageant depicting the history of Trion. The firm was established by Judge Spencer Marsh, Andrew P. Allgood, and Col. W. K. Briers as a thread mill, though it very soon added looms. In an 1850 census it was listed as having 864 spindles, 10 looms, and 45 operatives. The mill was destroyed by fire in 1875 but immediately rebuilt. Benjamin D. Riegel became president in 1912. Trion's present equipment comprises 90,-888 spindles and 2,358 looms.

Textile Design Prize Winners. Prize winners in Second Annual International Textile Exhibition, sponsored by the art department in The Woman's College, Greensboro, N. C., and shown during November in Weatherspoon Art Gallery of the college: Woven textiles—Robert D. Sailors, Cranbrook Art Academy, Bloomfield Hill, Mich., first prize, a rug in chartreuse, using Greek fret design. Printed textiles—Norvella M. Weise, San Francisco, Calif., first, geometric rhythms of brown on tan. Synthetic division—Lea Van P. Miller, Berkeley, Calif., first, saran, rayon and cotton combined in plaid design, chartreuse in color.

M. I. T. Alumni to Meet. The Technology Club of New York will hold its annual alumni banquet at the Hotel Biltmore, New York on Dec. 5. The dinner is in honor of Dr. Karl T. Compton who is completing his fifteenth year as president of the Massachusetts Institute of Technology. Bradley Dewey, president of the Dewey & Almy Chemical Co., and A. Warren Norton, president of the M.I.T. Alumni Association, will introduce Dr. Compton.

Chicago Tribune Style Show. The sixth annual *Chicago Tribune* fashion showings were held Oct. 25 and 26 in the WGN main studio, Chicago. The women's apparel division offered $5,000 in cash prizes and the Teen Age division offered $1,350.

ONE MINUTE TALKS ON

CLEANING SIZE BOXES AND KETTLES QUICKLY!

Wheat starch, glycerine, gelatin and other deposits can be speedily removed from size boxes and kettles when you employ this widely-used Oakite technique.

First, make up a solution of Oakite Composition No. 22 in your mixing kettle. Permit to soak. Then, pump to storage vat and size box. You will find that the effective detergent action of Oakite Composition No. 22 does a thorough job . . . that this Oakite method saves time . . . reduces effort.

Complete operational details gladly mailed on request. Write TODAY. There is no obligation.

OAKITE PRODUCTS, INC.
42 Thames Street, New York 6, N. Y.

Technical Service Representatives Located In All Principal Cities of the United States and Canada

OAKITE *Specialized* **CLEANING**
MATERIALS & METHODS FOR EVERY CLEANING REQUIREMENT

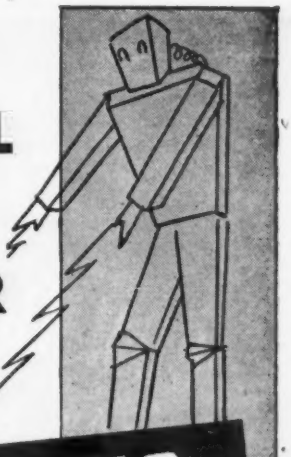
Greenville and Northern Railway Company

Plans for industrial plant location should include investigation of the territory served by the Greenville and Northern Railway.

The textile plants of Renfrew Bleachery (Division of Brandon Corporation) and S. Slater & Sons, Inc., are served exclusively by this railroad.

Booklet containing a survey of sites and describing the many unique advantages and opportunities available, including water supply, electricity, sewage and waste disposal, etc. will be sent upon request.

Greenville and Northern Railway Company,
P. O. Box 598, Greenville, S. C.
Please send descriptive survey of industrial sites and locations.
Name .....
Company .....
Address .....



PUT THIS INDUSTRIAL GIANT TO WORK FOR *you!*

CARBOMATIC INFRA-RED
GAS OR ELECTRIC UNITS

Amazing economies are typical of CARBOMATIC Infra-Red installations now in use in many textile plants. We suggest that you investigate the possibilities of this modern industrial giant.

Our engineering department will be glad to show you how CARBOMATIC Infra-Red can revolutionize your heating methods.

If it's Infra-Red . . .
Be Sure it's CARBOMATIC!

DRYING
CURING
CARBONIZING
SINGEING

•

65%
OF OUR ORDERS ARE REPEATS

INFRA-RED DIVISION

CARBOMATIC CORPORATION
117 WEST 63rd STREET • NEW YORK 23, N. Y.

Also—H. W. Butterworth & Sons Co., Philadelphia, Pa.
In Canada—Canadian Textile Engrg. Ltd.
980 St. Antoine Street, Montreal, P. Q.

COMMONWEALTH
COLOR & CHEMICAL CO.

More than thirty years' experience in the manufacture of Chemical Specialties, Dyestuffs and Dyewoods for the Textile and Allied Trades

MAIN OFFICE AND WORKS:
NEVINS, BUTLER AND BALTIC STS., BROOKLYN 17, N.Y.
PHILADELPHIA - CHICAGO
GLOVERSVILLE - MONTREAL

NEWS ABOUT Suppliers

Scott & Williams, New York, N. Y.—Prize winners in the Scott & Williams contest for a name for the new no-scam nylon "stocking of the future," with special toe and heel features, have been announced. They are, first prize, $1,000 war bond, Sigmund Iwanski, Toledo, Ohio; second prize, $500 war bond, Helen M. Stikeman, Providence, R. I.; third prize, $300 in war bonds, Barbara M. Newton, Hamilton, Ont., Canada.

National Ring Traveler Co., Pawtucket, R. I., has appointed Henry A. Carter to succeed J. Mayhew Wood, who has resigned after being associated with the company as salesman for the last ten years. Mr. Wood covered territory comprising New England, New Jersey, Pennsylvania, and some points in Maryland. Mr. Carter has been with this company for 21 years.

Morton Machine Works, Columbus, Ga., has been rejoined by Harry C. Jackson, major in the Army, who has just received his discharge. Major Jackson, who served as aircraft maintenance-engineering officer, has resumed his work as registered professional mechanical engineer.

L. C. PLAEHN, lately promoted by Barber-Colman Co., Rockford, Ill., to be southeastern district manager for automatic controls, air distribution equipment, and small motors, with office at 31 West McBee Ave., Greenville, S. C. Mr. Plaehn has been with Barber-Colman since 1930, having been branch manager of the Milwaukee office prior to taking the position as eastern district field engineer.

JOHN R. SCHENCK, who will be in charge of the new branch office at Charlotte, N. C., just established by Proctor & Schwartz, Inc., Philadelphia, in the Wilder Building. Mr. Schenck, lately a major in the Army Air Corps, was associated before the war with the agency which formerly represented Proctor & Schwartz in Charlotte.

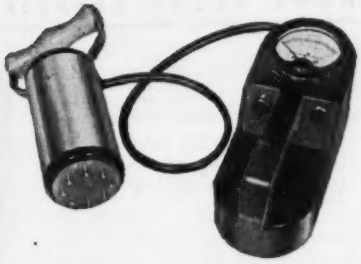
Whitin Machine Works, Charlotte, N. C., have awarded contract to McDevitt & Street Co., for construction of a building to cost about $275,000. Plans were prepared by J. E. Sirrine & Co., Greenville, S. C., architects and engineers. Eight months will be required to complete.

L. Sonneborn Sons, Inc., Textile Chemicals Division, New York, has added to its field technical staff Charles Fickinger, until recently lieutenant in the chemical warfare division of the Army, and Edwin P. Johnstone, research chemist. Mr. Fickinger will cover Georgia, Alabama and Mississippi, with headquarters in Chattanooga, Tenn. Mr. Johnstone, a graduate of Lowell Textile Institute, for some years a mill chemist, and former technical representative for American Cyanamid & Chemical Corp., will work in conjunction with the division's New England district manager, Robert Fickinger, brother of Charles Fickinger.

Arnold, Hoffman & Co., Inc., Providence, R. I., have appointed Leonard G. Tubbs

Electronic

MOISTURE REGISTER



WITH NEW K-2 ELECTRODE

Tests flat, irregular and curved surfaced materials in 3 seconds or less

Here is the all-purpose moisture testing instrument you have been waiting for.

Each button of the electrode is individually spring-cushioned to allow maintenance of contact regardless of contour — no points to break off or injure surface. It is completely portable, and can be operated by anyone.

The same exacting scientific research and precise engineering development that have made L-2 (lumber) and V-2 (veneer) models of Moisture Register the standard in their fields make the new model K-2 an accurate, dependable addition to this famous line. Write today for complete information, specifying type of material and per cent range of moisture content you wish to test.— Moisture Register Co., Dept. G, 133 North Garfield Avenue, Alhambra, California.

Direct reading dial shows moisture content of:
Paper in Stacks or Rolls
Cloth in Bolts
Lumber
Plaster
. . . and many other materials

ELECTRONIC MOISTURE REGISTER
The Standard in MOISTURE TESTING FOR ALL INDUSTRIES

Now Being Delivered!

NEW ZEPHYR "HYDRAXTOR"

the Extractor of the Future

John P. Maguire & Company

INCORPORATED

Factors

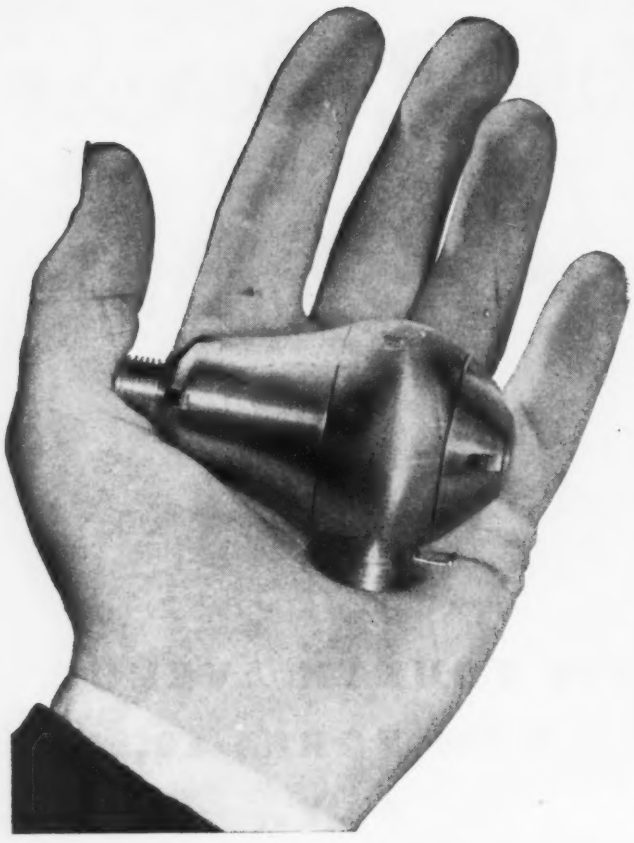
370 FOURTH AVENUE
NEW YORK, 10,
N. Y.

Check Credits

Cash Sales

Absorb Credit Losses

CORRESPONDENCE INVITED



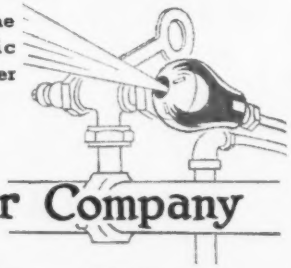
The Reliable Turbomatic

THE PARKS TURBOMATIC SELF-CLEANING ATOMIZER is "dia-fram-atic" (as are fuel pumps in automobiles).

"Dia-fram-atic" cleaning mechanism, with positive, straight line construction, is the best insurance against sticking. Does away with stuffing-boxes. Prevents leakage of expensive compressed air.

With air and water ports cleaned simultaneously by this simple, positive arrangement, quality and quantity of evaporation will continue after years of active work.

No piping changes. The self-cleaning Turbomatic interchangeable with earlier and other models.



Parks-Cramer Company

Fitchburg, Mass. Boston, Mass. Charlotte, N. C.

as northern sales manager. Mr. Tubbs will make his headquarters in New York, and will have general sales supervision of all territory north of Washington, D. C. W. Chester Cobb, lately a captain in the Army, has rejoined the Arnold-Hoffman staff as southern sales manager, with headquarters at Charlotte, N. C. He will have general sales supervision of all territory south of Washington.

Aridye Corp., Fair Lawn, N. J., has appointed Kenneth J. Broden as New England district manager. William A. Green has been appointed technical representative with headquarters in Providence, R. I.

Lombard Machine Co., Worcester, Mass., has leased 27,000 sq. ft. of space in the old Textile Finishing Machinery Co. plant in Providence, R. I.

E. H. Jacobs Mfg. Co., Danielson, Conn., Charlotte, N. C., and Montreal, Canada, has reopened its rubber plant at Danielson with its former manager, J. E. Moe, in charge.

Stein, Hall & Co., Inc., New York—A. R. McCleary managing director of the Canadian affiliate, Stein-Hall, Ltd., Toronto, Ontario, has resigned and David McGill has been named general manager.

E. I. du Pont de Nemours & Co., Wilmington, Del., plans a 18-story office building to be erected at Tenth and Tatnall St. as an addition to the Nemours Building. Construction will start next spring,

ODIS E. STEVENS, who has returned to the Carolina territory as industrial V-belt sales representative for The Dayton Rubber Mfg. Co., Dayton, Ohio. His headquarters have been transferred from Atlanta to Charlotte, N. C.

DR. VICTOR E. WELLMAN, who on Jan. 1, 1946, will join the development department staff of the Calco Chemical Division, American Cyanamid Co., Bound Brook, N. J. He will also serve as technical advisor to the sales department on matters relating to intermediates and chemicals. He is presently with R. W. Greeff & Co., Inc. and was for 15 years with the B. F. Goodrich Co.

and the new structure will be completed by the spring of 1947. A preliminary estimate of the cost is $3,000,000.

Graton & Knight, Worcester, Mass., has appointed Sam P. Dixon of Birmingham, Ala., as its representative in Georgia, most of Alabama, Eastern Florida and in 15 counties of Tennessee. Since his discharge from the Army, Mr. Dixon has received a training course at the Graton & Knight plant.

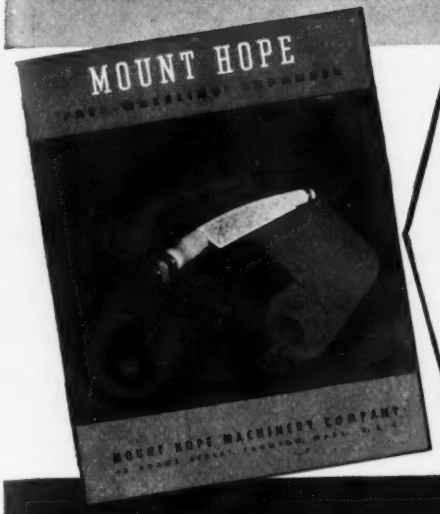
Atlanta Brush Co., Atlanta, Ga., has added to its sales and service department Fred Winecoff of Greensboro, N. C., who for 13 years was connected with the Proximity Mfg. Co., White Oak Mills, in the weaving department. Mr. Winecoff will travel in North Carolina and Virginia. He will work with George B. Snow, who has been with the company for 32 years.

American Wringer Co., Woonsocket, R. I. has added Harry E. Perry, for several years sales manager of the Providence Mill Supply Co., to its organization as manager of the Textile Specialties Department.

Dow Chemical Co., Midland, Mich.—Norman R. Peterson, after three years in the United States Army, has returned to take up new duties with the Dow company, specializing in development work on some of the newer Dow coatings derived from styrene and Saran.

Warwick Chemical Co., West Warwick, R. I., has

MOUNT HOPE
"FREE-WHEELING" EXPANDER



SEND FOR BULLETIN W

Maximum width of cloth with minimum tension. Minimum wear on surface of expander. For all types of fabrics from rayon marquisettes to tire cord.

MOUNT HOPE MACHINERY CO.
42-W Adams St., Taunton, Mass.

How would you mount a BALL BEARING on this Shaft?

Split BALL BEARINGS are the Answer!

Split Ballbearings may be used today where solid race bearings cannot be installed, opening up a wide field for anti-friction bearing applications. The inner and outer races of the Split Ballbearing are fractured by a patented process and bolted together with taper-shank, headless screws, permitting installations as shown above.

Split Ballbearings are manufactured under the highest precision standards for accuracy in operation and trouble-free service. In many machine tool applications they can easily be the lowest cost bearings in the long run.

Obtainable in ball or roller radial types, or thrust type

Investigate! Write for catalog TW-115

·DIVISIBLE RACE BEARINGS·
SPLIT BALLBEARING CORPORATION
LEBANON, NEW HAMPSHIRE..U. S. A.

TRUKON
A GOOD WATER-REPELLENT

★ There are *distinct advantages* in using TRUKON. Fabrics treated with TRUKON are made uniformly water-repellent, spot and perspiration-resistant and wear-resistant. It has excellent penetrating power and provides uniform distribution during application. TRUKON is miscible in cold water — it is simple and easy to use — requires no special equipment . . . Postwar consumer demand will extend the application of water repellents to a great variety of fabrics. All the aids-to-selling that this implies are obtained in full measure by using TRUKON.

Hart Products Corp. • *Manufacturing Chemists*
1440 Broadway, New York 18, N. Y.

TECHNICAL SERVICE AVAILABLE
Our laboratories are at your service to help solve your processing and finishing problems. Practical demonstrations in your own plant conducted upon request.

HART PRODUCTS
for Every Phase of Textile Processing

THE COUNTRY OVER, IT RAINS ONE DAY OUT OF THREE

how to safeguard against spotty bleaching

Year after year textile mills have used this proved formula for safeguarding fabrics against *uneven colors and spotty bleaching.*

SOLVAY Liquid Chlorine is an effective water conditioner and bleaching agent that is both economical and versatile. Its controlled quality, highest standard of purity, and dependable uniformity are your assurance of better performance every time.

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 Rector Street **New York 6, N. Y.**

BRANCH SALES OFFICES:

Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit
New Orleans • New York • Philadelphia • Pittsburgh • St. Louis • Syracuse

SOLVAY

TRADE MARK REG. U. S. PAT. OFF.

LIQUID CHLORINE

NEWS ABOUT SUPPLIERS

added Oliver L. Bennett, formerly of Riverside & Dan River Cotton Mills, Danville, Va., to its technical sales staff at the Rock Hill, S. C., plant. Mr. Bennett, a graduate of Clemson College, served his apprenticeship with Pacific Mills, Lyman, S. C. He was subsequently associated with Southern Bleachery, Taylors, S. C., and Trion Co., Trion, Ga. Warwick Chemical Co. has established the Warwick Chemical Foundation as a memorial to company employees who gave their lives during the war. The chief function of the foundation will be to promote research and education in chemistry by providing scholarships to graduate chemistry students in a number of colleges.

Morton Chemical Co., Greensboro, N. C., has appointed Dr. B. G. Zimmerman as technical director. He has been for the last eight years in the Research Division of General Aniline Works, Grasselli, N. J. Morton Chemical Co. is just now completing the rebuilding and re-equipping of its plant following the fire of July, 1944.

Naugatuck Chemical Division of United States Rubber Co., has appointed Stephen H. Tyng, formerly of the company's Institute, W. Va., synthetic rubber plant to its technical sales organization handling latex, Lotol, dispersions and latex chemicals. He will make his headquarters at the company's Boston office, and will cover the New England area.

GEORGE L. ROOT, who has joined the Reynolds Metals Co., Louisville, Ky., as a development engineer on aluminum textile applications. Mr. Root previously had been employed by the American Magnesium Corp. as a development engineer and by the Aluminum Co. of America. His headquarters will be at Reynolds' New York office, 19 East 47th St.

ELMER C. BERTOLET, who has joined the Laurel Soap Mfg. Co., Inc., Philadelphia, Pa., as technical director. He was formerly with the Philadelphia Textile Institute as head of the department of chemistry and dyeing for 34 years. During the war, Mr. Bertolet was senior technologist in the textile section, Research & Development Branch, Engineering Division, Jeffersonville, Ind., QM Depot.

Oakite Products, Inc., New York, held its 1945 Victory Conferences in New York and Chicago last month. Discussions covered many low-cost, time-saving techniques for handling such textile-mill maintenance tasks as controlling and preventing formation of slime and lime scale deposits in humidifying equipment; steam-cleaning of large machinery, dye vats, slasher drums; power-plant cleaning and de-scaling operations; cleaning loom harnesses, heddles, warp rings; cleaning tenter chains and clamps; and other maintenance, cleaning, and related operations. The newly-developed Oakite - vapor cleaning unit, was described and discussed.

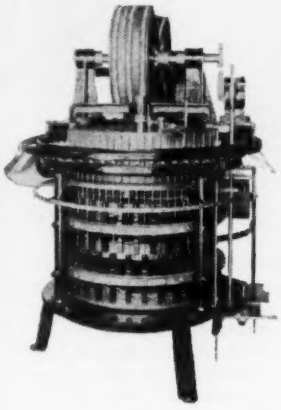
Allis Chalmers Mfg. Co., Milwaukee, Wis., has named Arthur R. Tofte as manager of its advertising and public relations department. He succeeds George J. Callos, who resigned.

Brown Instrument Co., Philadelphia—Marshall B. Taft, formerly of the Aero Division, Minneapolis-Honeywell Regulator Co., has been made assistant to Henry F. Dever, president of the Brown Instrument Co., Philadelphia industrial division of Honeywell.

Hercules Powder Co., Hopewell, Va., has announced a $30,000,000 three-year construction program which will maintain employment at 10,000, as compared with the 1939 total of 5,750. The company will double its cellulose-

Saylor Loom

— HIGH SPEED — EFFICIENT —



Low cost of upkeep and simplicity are two of the outstanding features of this loom.

We design and build these looms to suit your requirements.

A strictly uniform tension. Automatic stop on all threads.

Complete and adjustable tension of the warp threads while the loom is in motion.

Easy, smooth and light heddle action, which opens the threads so the shuttle may pass freely.

One operator can attend a large number of machines.

This loom is built with 2 or 4 shuttles, giving the highest production possible.

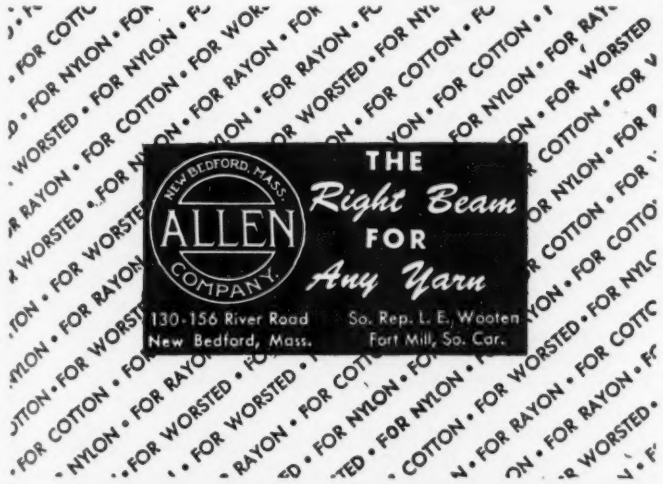
Material and workmanship throughout are the best. It is a high-class weaving machine.

A loom covering is the best and most desirable for hoses, cables, etc. Ask about "SAYLORTUBE."

Write for detailed description.

FRANK D. SAYLOR & SON

13095 GREELEY AVE., DETROIT 3, MICH.



Reg. U. S. Patent Office

Doc Steelstrap is back from the war! *Now your individual needs come first!* To thousands of manufacturers for whom Doc Steelstrap is a symbol of friendly, efficient service, this is good news.

Doc is again available to prescribe Acme methods of package reinforcement and bracing of carload shipments—to effect lower distribution costs and assure maximum product protection. Write or call any office.

New York 17 Atlanta Chicago 8
Los Angeles 11

ACME STEEL COMPANY ACME STEEL CO. CHICAGO

SOUTHERN FACTORING
for
SOUTHERN BUSINESS
A prompt, efficient service nearby . . . removing all credit risk and collection expense.
TRUST COMPANY OF GEORGIA
ESTABLISHED IN 1891
ATLANTA
"NEXT DOOR TO EVERY MILL IN THE SOUTH"

acetate production by purchase of facilities at Parlin, N. J., from the Defense Plants Corp. An addition to the Brunswick, Ga., plant, to be completed by April 1, will expand naval stores by 20%. Other additions and improvements are planned at the purified chemical cotton plant at Hopewell.

N. Y. & N. J. Lubricant Co., New York—James A. Sorrells, Jr., who has received his discharge from the Army, has rejoined the company and re-established his headquarters at Greenville, S. C. where he is engaged in service work among the Southern mills.

B. F. Goodrich Chemical Co., Cleveland, Ohio, has promoted George A. Fowles, formerly manager of electric wire and cable insulating materials, to be sales manager for Geon thermoplastics. J. H. Field, Jr., formerly manager of the company's service laboratory in Cleveland, is named manager of technical service for the plastic materials sales staff. M. Scott Moulton, formerly technical service engineer for packaging materials, becomes manager of Geon coating and film materials for the paper and textile fields. Clyde D. Segner, formerly technical service engineer in charge of fabric coatings, will become Chicago district Geon sales representative. Goodrich Chemical has named Wayne Brinkerhoff, formerly manager of technical data service, as advertising manager.

The B. F. Goodrich Co., Akron, Ohio, has appointed John M. Cooney as Boston district manager of the Industrial Products Sales Division, succeeding George H. Wood, who is retiring from active service after 33 years with the organization. Goodrich has appointed James A. Windram as manager of the St. Louis district of the Industrial Products Division, succeeding George Livermore, who is retiring from the company after 30 years' service, all in the industrial products field.

General Electric Co., Schenectady, N. Y.—The Motor Division of GE's Apparatus Department has been reorganized in view of the large volume of electric motor business. W. H. Henry, formerly manager of the Motor Division, is appointed assistant manager of the Industrial Divisions in charge of the motor business.

JOHN S. TAWRESEY, a lieutenant-colonel in the Army Air Corps, has been appointed vice president in charge of engineering of The Bunting Brass & Bronze Co., Toledo, Ohio, where he will direct research and study of modern bearing design and applications in the light of advancements made during the war and the requirements of modern mechanisms in all fields.

Reynolds Metals Co. has appointed Reid B. Gray as director of the Reynolds Research Institute. Mr. Gray succeeds Dr. Warren J. Mead, who has resigned to give more attention to his duties as head of the Geology Department of MIT.

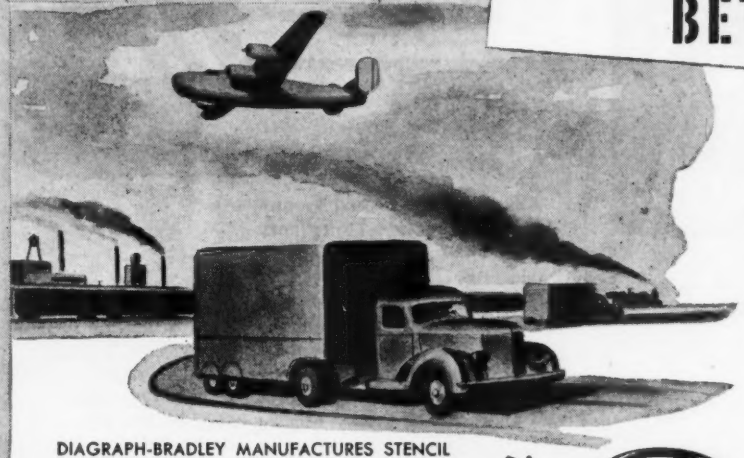
Packaging Institute, Inc., New York, will hold its seventh annual meeting at the Hotel Commodore, New York, on Nov. 26 and 27. Maj. Albin P. Dearing has been appointed executive director of the Institute.

Aluminum Co. of America—Dr. Francis C. Frary, director of research of Aluminum Co. of America, has been elected to receive the Perkin Medal in recognition of his outstanding accomplishments in the field of industrial research, according to Cyril S. Kimball, secretary of the American Section of the Society of Chemical Industry. Presentation will take place at a dinner meeting of the society at the Hotel Commodore on Jan. 11, 1946.

Dover Industries, Inc., Chicago, has started up its plant at 2929 N. Campbell Ave., on manufacturing and jobbing of metal articles requiring plated finishes. L. D. Jensen, formerly vice president of Chromium Corp. of America, is president.

Diagraph-Bradley Stencil Machine Corp., St. Louis, Mo., recently held a four-day War Conference at Hot Springs, Va. and all of their distributors attended.

BETTER INKS
BETTER DELIVERIES



STENCIL ADDRESS YOUR SHIPMENTS

CLEAR... EASILY READ... PERMANENT STENCIL ADDRESSED SHIPMENTS will help to speed and insure their delivery on time.

DIAGRAPH-BRADLEY non-settling, non-clogging Stencil and Marking inks have been developed through 50 years of research to do a better marking job. A DIAGRAPH-BRADLEY ink is manufactured for every marking need in black and colors, meeting all Government performance specifications.

DIAGRAPH-BRADLEY MANUFACTURES STENCIL CUTTING MACHINES FOR EVERY SHIPPERS NEEDS.

Letter sizes ½", ¾", ⅞", 1¼", 1½" and 1¾".

*Reg. U. S. Pat. Off.

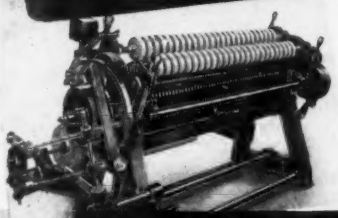
COMPLETE SHIPPING ROOM SUPPLIES

D.B. **DIAGRAPH-BRADLEY**
STENCIL MACHINES
NO. 62 DIAGRAPH-BRADLEY BUILDING
ST. LOUIS 8, MISSOURI
Distributors in Principal Cities
See Classified Section-Telephone Book • STENCIL CUTTING MACHINES

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF STENCIL CUTTING MACHINES

CAMACHINE 26-3A

There's a CAMACHINE for YOU!



CONVERTS WIDE VARIETY OF FABRICS INTO NARROW ROLLS

•

ACCURATE DIMENSIONS, UNIFORM WINDING AND CLEAN-CUT EDGES

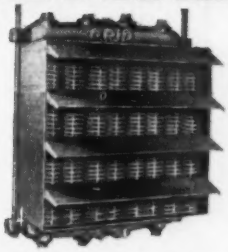
•

WRITE FOR DETAILS

CAMERON MACHINE COMPANY
61 POPLAR STREET, BROOKLYN 2, N. Y.
MIDWEST OFFICE: 111 W. MONROE ST., CHICAGO 3, ILL.

ATMOSPHERIC CONDITIONS *LIKE THIS* DO NOT RETARD *OR* PLUG UP

GRID



HERE'S WHY **UNIT HEATERS**

* One piece construction heating sections (patented) of high test cast iron that withstand steam pressure up to 250 lbs.

* No soldered, brazed, welded or expanded connections to become loose or develop leaks.

* No electrolysis to cause corrosion, breakdowns, leaks, or heating failures.

GRID High Test Cast Iron Unit Heaters are engineered especially to overcome atmospheric conditions always present in textile mills. Many have been in use for 15 years without maintenance expense. Capacity tables and complete details upon request.

SEND! for new booklet that tells why corrosion destroys unit heaters—free upon request.

HIGH TEST *Cast Iron* HEATING SECTIONS

D. J. MURRAY MANUFACTURING CO. WAUSAU, WISCONSIN

When You Change Your Address . .

It will help us keep your copies of TEXTILE WORLD coming to you each month if you will promptly advise us of any change of address.

Director of Circulation,
TEXTILE WORLD,
330 West 42nd St., New York, 18, N. Y.

Please change the address of my Textile World subscription.

Name .....

Old Address .....

New Address .....

New Company Connection .....

New Title or Position .....

WHITMAN YARNS

WORSTED · COTTON · SPUN RAYON

WHITMAN SERVICE

1852-1945

During 93 years The William Whitman Company, Inc., and its predecessors have served the interests of important mills and users of yarns, seeking to establish for its customers a steady flow of dependable, quality yarns.

ARLINGTON MILLS

LAWRENCE, MASS.

Bradford Spun Worsted Yarns, Natural and Slub-dyed Colors and Mixes.

MONOMAC SPINNING CO.

LAWRENCE, MASS.

French-spun Worsted and Merino Yarns. Specialty Yarns—Rabbits Hair, Rayon, Acetate and Other Blend Yarns.

NONQUITT MILLS

NEW BEDFORD, MASS.

Cotton and Spun Rayon Yarns, Merino Blends, Specialty Rayon and Wool Mixtures.

WILLIAM WHITMAN COMPANY, INC.

SELLING AGENTS

BOSTON, 78 Chauncy St. · NEW YORK, 261 Fifth Ave.
PHILADELPHIA, 1600 Arch St. · CHARLOTTE, Commercial Bank Bldg.

NEWS ABOUT Mills

Cotton Mill News

American Yarns, Inc., Mount Holly, N. C., newest of plants embraced by American Yarn & Processing Co., Mount Holly, and formerly known as the Nims Mill, has begun full operation. C. C. Hope is superintendent. Recent additions to the plant include a warehouse of 300-bale capacity, picker room, air-compressor room and wash-rooms on both floors. New machinery has been installed, including 46 cards, a vacuum air-stripper for cards, eight combers, 16 spinning frames, eight twisters, and a Superior cleaner. For the present the mill will use Egyptian cotton in the manufacture of thread yarn.

Anniston Mfg. Co., Anniston, Ala., has begun erection of one-story weave-shed, for which general contract was let to Daniel Construction Co., Greenville, S. C. Cost about $175,000, with equipment. J. E. Sirrine & Co., Greenville, are engineers.

Arrow Elastic Co., Springfield, Mass., has opened a branch plant in the South American republic of Colombia. American machines were shipped there about eight months ago.

Beaumont Mfg. Co., Spartanburg, S. C., plans installation of equipment for large increased capacity. Cost reported about $300,000.

Bocar Mills, Inc., Clover, S. C., will occupy a plant erected by Carey C. Boshamer, president of Clover Spinning Mills, contract for which has been let to C. I. Bennett Construction Co., Kings Mountain, N. C., at a cost of approximately $100,000. It will be completed early in 1946. Special cotton yarns will be produced with a working force of around 125 persons. The John A. McPherson Co., Greenville, S. C., are engineers for the project. Building will be windowless, Carrier air-conditioned, 145x105 ft.

Chicopee Mfg. Co. of Georgia, Gainesville, Ga., announces plans for the construction of a Lumite plant at Cornelia, Gal The plans, prepared by Robert & Co., Atlanta, Ga. call for a one-story building, 427 by 152 feet, with a separate boiler house and garage. Lumite is the trade name for Chicopee's plastic products including monofilament screening.

Clearwater Mfg. Co., Clearwater, S. C., plans construction of a machine shop at a cost of $48,800. United Merchants Laboratories, Inc., of New York, is the engineering firm, and the contract has been let to Potter & Shackelford, Inc., of Greenville, S. C.

Dalton Textile Corp., Dalton, Ga., is installing machinery in its new $30,000 building. For the present, plans are to specialize on types of yarn used by the chenille industry while making some thread.

Eastman Cotton Mill, Eastman, Ga., plans to spend $125,000 modernizing its plant. It is expected that the improvements will increase output by about 1,000,000 yd. annually.

Globe Mills, Mount Holly, N. C., have begun an addition to provide 34,000 additional feet of floor space.

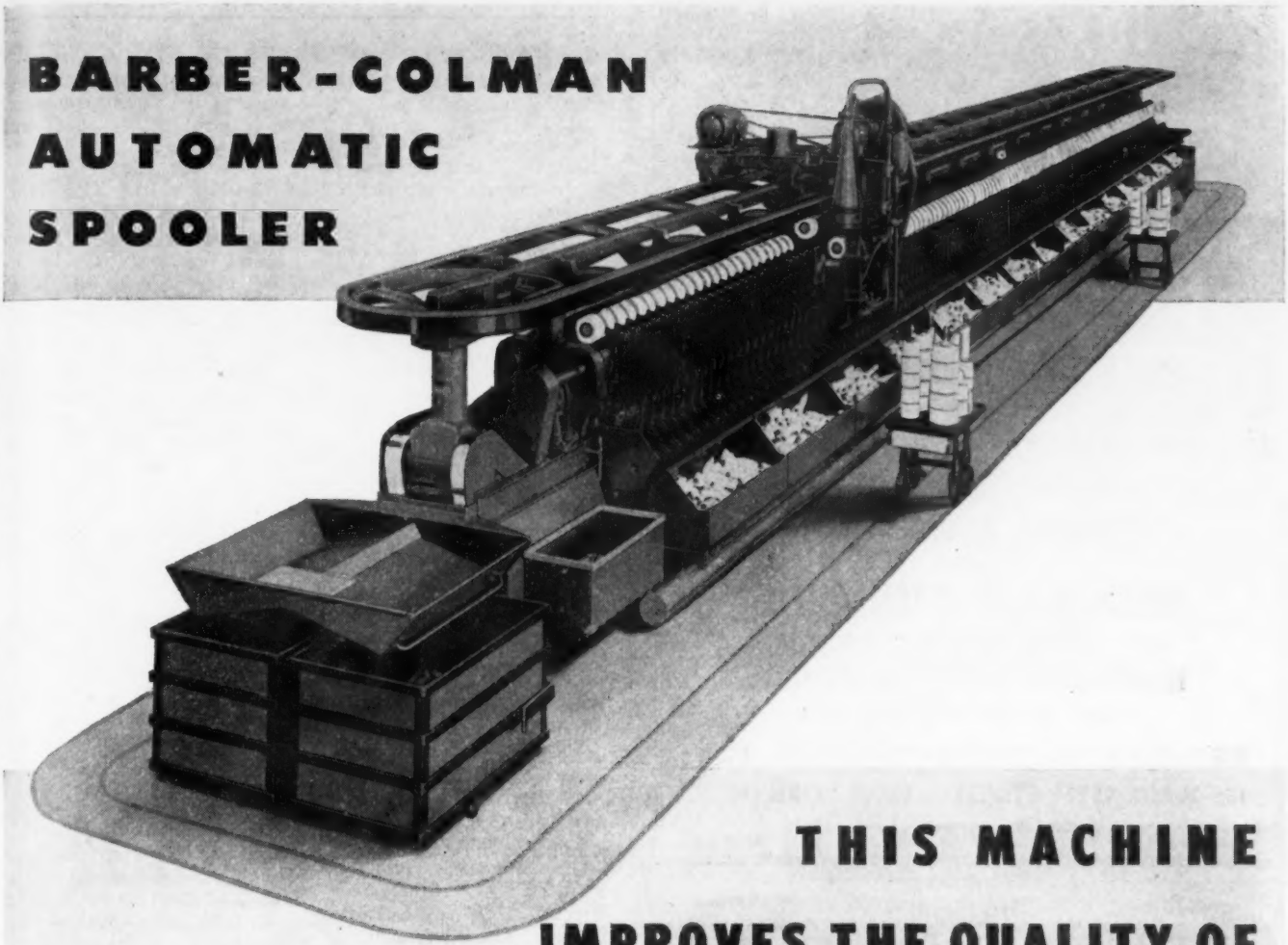
Herron Yarn Mills, Inc., Memphis, Tenn., plans one-story addition, to cost about $30,000, with equipment.

Kings Mountain Mfg. Co., Kings Mountain, N. C., has plans for expansion and improvements in mill.

Linford Mills, Inc., and the **Perfection Spinning Co.,** of Belmont, N. C., will build a complete new sewerage system for their villages at a cost of $70,000.

Massasoit Mfg. Co. properties comprising four large mill buildings and the Quequechan River water rights at Fall River, Mass., are now owned by Man-

BARBER-COLMAN AUTOMATIC SPOOLER



THIS MACHINE IMPROVES THE QUALITY OF EVERY FOLLOWING STEP IN CLOTH PRODUCTION

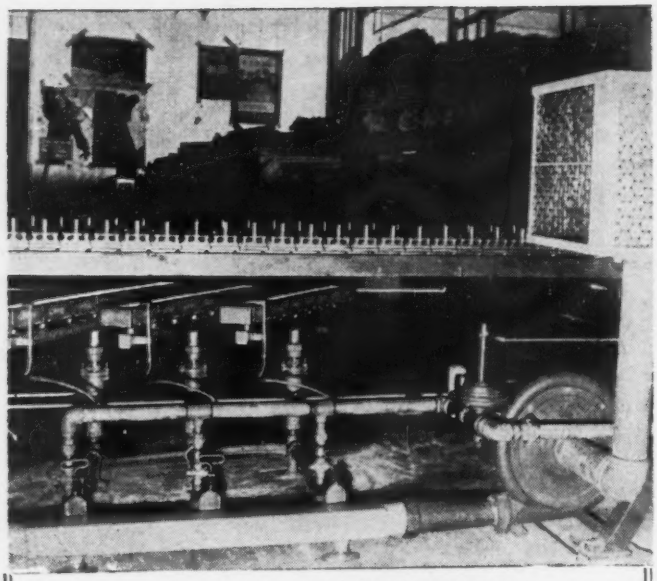
ANY mill man who wants to do something about improving efficiency of operations and quality of his product will be well advised to investigate the advantages of Barber-Colman Automatic Spoolers. These machines not only are a better means for winding yarn from bobbins onto warper cheeses, but they also produce substantial improvements in following operations. Experience in many mills shows that Barber-Colman Automatic Spoolers deliver a better package to the warper, and this results in better beams to the slashers, better loom beams to the weave shed, and better cloth to the finishers. Efficiency is improved because there are less warper stops, more economical slashing, fewer loom stops, and less seconds. The machine gives very little trouble, requires few service calls, and delivers a uniform package steadily with a minimum of down time. *Ask your Barber-Colman Representative for complete information.*

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

BARBER-COLMAN COMPANY

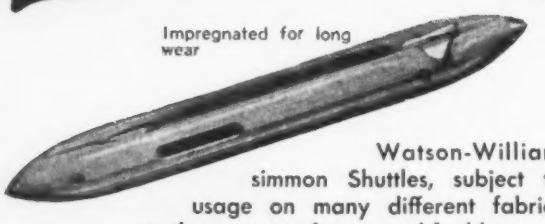
ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND



TYPICAL APPLICATION
OF
RED-RAY BURNERS
ON OPEN TENTER FRAME
HANDLING COTTON GOODS
WRITE FOR COMPLETE DETAILS
RED-RAY MANUFACTURING CO.
455 WEST 45TH STREET NEW YORK, N. Y.
Canadian Representative:
Rudel Machinery Co., Ltd., 614 St. James St. West, Montreal

SCOURING WETTING
PINE-SOLVENT
BLEACHING DYEING
Wets . . . Penetrates . . . Suspends . . . Disperses . . . Aids Detergents and Dyes . . . Cuts Time and Cost.
BURKART-SCHIER CHEMICAL CO.
CHATTANOOGA, TENNESSEE

PERSIMMON SHUTTLES
Impregnated for long wear

Watson-Williams Persimmon Shuttles, subject to long usage on many different fabrics have passed every test of wear and faultless operation.
WATSON-WILLIAMS MFG. CO., Millbury, Mass.
NORTHERN REPRESENTATIVE: G. C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass. SOUTHERN REPRESENTATIVES: John W. Littlefield, 810 Woodside Bldg., Greenville, S. C.; Walter F. Daboll, 703 Jefferson Bldg., Greensboro, N. C.

uel and Delia Andrade, of Fall River, for the purpose of industrializing the site.

Merrimack Mfg. Co., Huntsville, Ala., plans one-story addition for which contract will be awarded soon.

Monroe Mills, Monroeville, Ala., plans expansion and improvements, including new addition and installation of equipment. Cost reported to cost $200,000, with machinery. J. E. Sirrine & Co., Greenville, S. C., are engineers.

Morrowebb Cotton Mill, Dallas, N. C., has been purchased by the Gastonia Combed Yarn Corp., Gastonia, N. C.

Muskogee Mfg. Co., Columbus, Ga., previously reported, has let contract to A. K. Adams Co., Atlanta, Ga., for five-story addition, 56x108 ft., to cost about $150,000, with equipment. Robert & Co., Atlanta, are engineers.

Oconee Mills, Inc., Westminster, S. C., have begun erection of one-story addition, for which general contract was let to Daniel Construction Co., Greenville, S. C. Cost over $65,000, with equipment.

Proximity Mfg. Co., Greensboro, N. C., will be parent operating and holding company for a merger of 14 weaving and finishing plants now controlled by the Cone interests, according to announced plan. Proximity would offer its common stock to stockholders of Cliffside Mills, on the basis of 1.67 shares for one; to Florence Mills, 2.39 shares for one; to Minneola Mfg. Co., 22.08 for one; and to the Salisbury Cotton Mills, 18.45 for one. The merger will include Tarbardrey Mfg. Co. and Cone Export & Commission Co., both to receive Proximity stock in exchange on basis to be announced later. The proposed reorganization would give Proximity net assets of over $50,000,000, the new corporate structure providing for authorized 1,500,000 shares of common stock, of which around 918,000 would be outstanding. Other mills involved in the reorganization are Ashville Cotton Mills, Eno Cotton Mills, and Revolution Cotton Mills, all wholly or majority owned by the Cone interests; White Oak Cotton Mills, Proximity Print Works, and Granite Finishing Works, all units of the Proximity Mfg. Co. The plan will have no effect on operation or management of the various companies and plants. No additional capital is involved.

Rocky Mount Cord Co., Rocky Mount, N. C., which purchased the Wilson Cotton Mills, Wilson, N. C., has resold that plant to the R. P. Watson Tobacco Co. of Wilson.

Sherman Mfg. Co., Sherman, Texas, has been purchased by Grayson Textiles Inc., pursuant to the offer made by Jacob Ziskind of Fall River, Mass. Mr. Ziskind has become president of Sherman Mfg. Co. and Dan H. Poole is continuing as superintendent. A new board of directors has been elected.

Steele's Mills, Rockingham, N. C., have sold 84% of their stock to R. S. Dickson & Co., of Charlotte, N. C., and associates. They have offered to purchase the remaining stock. John W. Porter will remain in charge of operation temporarily.

United States Rubber Co., Franklin, Ga., unit has begun manufacture of thread, to be taken to the Hogansville, Ga., unit for further processing and finishing.

Universal Braiding Mills, Worcester, Mass., have established their own carding and spinning departments separate from the braiding mill. The new plant is located at 80 Austin St.

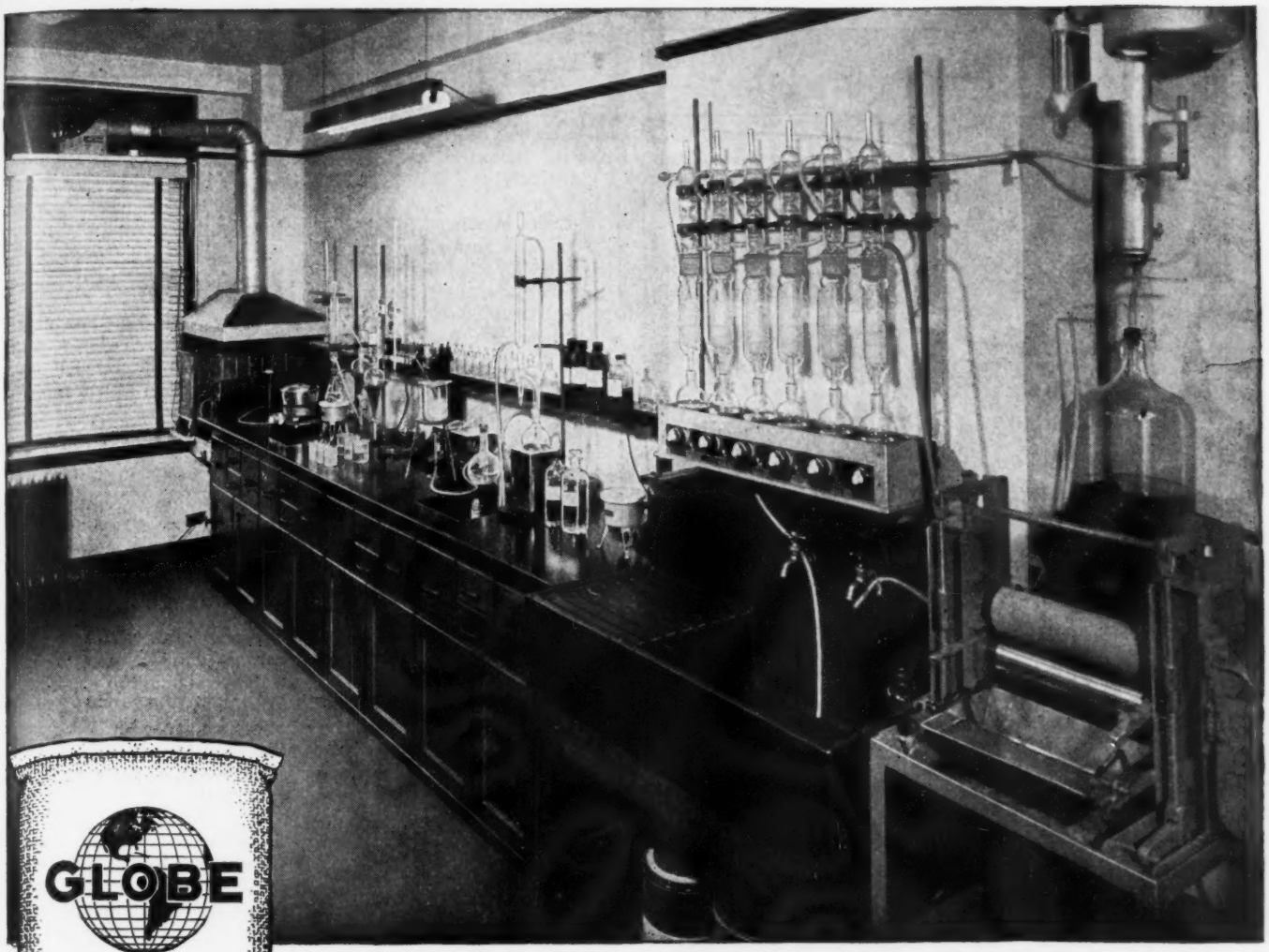
Wool Mill News

Artloom Corp., Philadelphia, Pa., has begun a one-story addition, for which general contract was let to Turner Construction Co., Philadelphia. Cost over $65,000, with equipment.

Sidney Blumenthal & Co., Inc., Rocky Mount, N. C., division, plans an addition which will contain 40,000 sq. ft. floor space in the main weaving division.

Chatham Mfg. Co., Elkin, N. C. (previously reported), has let contract to Frank L. Blum & Co., Winston-Salem, N. C., for expansion and improvements in mill, and work will begin soon. This is part of a $1,000,000 development program at plant.

Colored Worsted Mills, Providence, R. I., control has passed to Mrs. Alfred H. Lister



Looking Ahead to Better Textiles

OUR experienced technicians, using the complete facilities of our textile laboratory, at Greenville, S. C., have successfully solved many problems in the use of starch. We cordially invite you to consult them if you have any starch problems. Their services are at your command.

CORN PRODUCTS SALES COMPANY

Greenville, S. C. Greensboro, N. C. Spartanburg, S. C.
Birmingham, Ala. Atlanta, Ga.

Waste meets its master —

P.O.M. Company
INDUSTRIAL CONSULTANTS
60 E. 42nd St. • New York 17, N. Y.

WERNER
TEXTILE CONSULTANTS, INC.
60 E. 42nd St. • New York 17, N. Y.

POOL
their specialized skill and experience
of
20 years in the Textile Industry
to
analyze, design, and economize
on your
MATERIALS HANDLING

OTHER SERVICES:
PLANT LAYOUTS. CONTROLS FOR SUPPLIES, MACHINES, MAINTENANCE, QUALITY AND WASTE
PROCESSING METHODS, MANUFACTURING CONDITIONS.
ORGANIZING OF ADMINISTRATIVE ROUTINES.

BURKOL
SYNTHETIC DETERGENT
Low Cost Wetting and Scouring Agent of Exceptionally High Detergent Value.
Effective in hard water, acid or alkaline baths.
BURKART-SCHIER CHEMICAL CO.
CHATTANOOGA, TENNESSEE

"FLASH-O-LENS"
The illuminated magnifier (5X to 100X)
For defect analysis textile research, process control fiber identification and fabric inspection "Flash-O-Lens" provide a simple, efficient and economical mill service.

Available in several models, powered by A.C., D.C., or flashlight battery with various combinations of interchangeable lenses. Send for our illustrated catalog.

E. W. PIKE COMPANY
Elizabeth 3, New Jersey

of Providence. William H. Lister has been elected president, treasurer, and general manager.

Davis Woolen Mills, Kitchener, Ont., plans one-story addition, reported to cost over $75,000, with equipment.

Lawrence Blanket Mills, Inc., Dudley, Mass., have been organized with capital of 1000 shares of stock to operate a local woolen mill. Israel S. Zelkind is president.

Lees-Cochrane Corp., Glasgow, Va. (previously reported), has awarded general contract to Daniel Construction Co., Greenville, S. C., for mill addition reported to cost close to $400,000, with equipment, and will soon begin erection.

Lima Woolen Mills, Lima, Ohio, have begun erection of one-story addition for expansion in dye house, for which general contract recently was let to Breen & Sawyer Co., Lima. Cost about $85,000, with equipment.

Macon Textiles, Inc., Macon, Ga., has awarded contract to Daniel Construction Co., Greenville, S. C., for a three-story office building.

North Billerica Co., North Billerica, Mass., has completed a two-story addition, 118x40 ft. containing large areas of glass-block construction. The spooling, dressing, and winding department will use the ground floor, and part of the spinning department will use the top floor.

Oxford Spinning Mills, Inc., Main St., North Oxford, Mass., recently organized with capital of 1000 shares stock, no par value, plan operation of local mill. M. E. Power is president, Florence Manasas is treasurer.

St. Marys Woolen Mfg. Co., St. Marys, Ohio, has begun a second story addition, 75x110 ft., to present one-story building, estimated to cost over $65,000, with equipment.

Susquehanna Woolen Mills, New Cumberland, Pa., are spending about $200,000 for new equipment and buildings.

Waite Carpet Co., Oshkosh, Wis., has let contract to C. R. Meyer & Sons Co., Oshkosh, for one-story addition, about 35x95 ft., to cost over $50,000, with equipment. Same contractor recently secured award for remodeling portion of mill (previously reported).

Rayon & Silk Mill News

Avon Mills Co., Pawtucket, R. I., recently chartered, plans operation of local rayon mill. E. M. Bromley, 123 Waterman St., Providence, R. I., is company representative.

Avon Weaving Corp., Brooklyn, N. Y., a new company, has purchased one-story building at 39th St. and 7th Ave., on site 100x300 ft., and will improve and equip for mill.

Bruck Silk Mills, Ltd., Cowansville, Que., is planning to erect a building on Bowen St. S., Sherbrooke, Que., at an estimated cost of $300,000. Plans call for 1½-story building, 275x300 ft., of brick and steel construction.

Burlington Mills Corp., Greensboro, N. C., further expansion in Canada was announced Oct. 18 by Britt M. Armfield, vice president in charge of foreign operations, through an arrangement with Dominion Textile Co., Ltd., of Canada. Stock ownership in the new concern, which will be known as Dominion-Burlington Mills, Ltd., of Canada "will be equally divided between the two present companies, and the organization will engage in rayon weaving and spinning, and will merchandise a varied line of rayon fabrics", Mr. Armfield said. Already Burlington operates plants in Canada, recently having consummated a deal with Stark Brothers Ribbon Corp., Ltd., of Canada, makers of narrow fabrics.

Canadian Celanese, Ltd., Drummondville, Que., plans extension to building No. 1, approximately 40x60 ft. The work is part of a $500,000 construction program already underway at the same location.

Carter Fabric Co., South Boston, Va., will soon begin superstructure for one-story addition, reported to cost over $60,000, with equipment.

Celanese Corp. of America, Inc., New York, N. Y. (previously reported), has let general contract to George F.

ALDON SPINNING MILLS

ALFRED W. CAVEDON

Spinners of Fine Woolen

Merino & Specialty Yarns

SELL DIRECT TALCOTTVILLE, CONN.

DANA WARP MILLS

Westbrook, Maine

Cotton yarns, single and ply
Cotton warps, single and ply
Colored yarns and warps
Spun rayon—yarns and warps
Seamless grain bags.

THOS. WOLSTENHOLME CO.

3300 Frankford Avenue, Philadelphia, Pa.

Yarns for All Purposes

French and English Spun Worsted
French Spun Zephyr
French Spun Merine

Representatives:—

Mr. Robert H. Perkins, 99 Chauncey St., Boston 11, Mass.
Mr. C. F. Peffer, The Merchandise Mart, Suite 1076, Chicago 54, Ill.
Mr. Arthur Bone, 4436 Worth St., Los Angeles 33, Cal.

THE OLDEST AND LARGEST
MANUFACTURER OF
Ring Spinning and Twister Travelers
In the UNITED STATES

American • Hicks • Wilson
United States Standard
Wentworth Double Duty
and Gravity Travelers

MAKES STRONGER YARN

National-Etartnap Finish
A New Chemical Treatment
Write Us

National Ring Traveler Company
354 Pine St., Pawtucket, R. I.
PHILIP C. WENTWORTH, Treas.
P. O. Box 1565, Providence, R. I., Charlotte, N. C.

To suit your Ring needs *Exactly*

Our 1000-odd styles and sizes in rings from 1⅛" to 6¾" enable you to enjoy the advantages of the famous DIAMOND FINISH on EVERY spinning and twisting operation.

WE MAKE ALL TYPES OF HOLDERS

WHITINSVILLE (MASS.)
SPINNING DIAMOND FINISH **RING CO.**
Makers of Spinning and Twister Rings since 1873

DAVIS AND FURBER

Earn a Manufacturing Profit
By Using the Best
Machinery and Supplies

DUSTERS
PICKERS
CARDS
MULES
WOOLEN SPINNING FRAMES
SPOOLERS
DRESSING FRAMES
NAPPERS
CARD CLOTHING
NAPPER CLOTHING
GARNETT WIRE
LEATHER RUB APRONS
LEATHER CONDENSER TAPES

DAVIS & FURBER
NORTH ANDOVER, MASS.

THE ACCEPTED STANDARD

For Maintained Shrinkage—Perfect Finish—Long Life

HUYCK SANFORIZER BLANKETS

HUYCK SANFORIZER and Palmer Blankets are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the coarsest denim, there is a special Huyck blanket to meet your specific needs.

Huyck Sanforizer blankets retain high shrinkage and finish properties to the last.

PALMER BLANKETS—also available for your special requirements.

Write for information or see our representative

KENWOOD WOOL PRODUCTS

F. C. Huyck & Sons
KENWOOD MILLS
Albany, New York

Hazelwood, Cumberland, Md., for proposed new warp-knit fabric mill at Bridgewater, Va., and will begin work at once. Cost approximately $500,000.

Collins & Aikman Corp., Norwood, N. C., has work under way on one-story addition, for which general contract recently was awarded to George W. Kane, Greensboro, N. C. Cost reported close to $90,000, with equipment.

Copeland Fabrics, Inc., Hopedale, N. C., has awarded contract to J. O. Baylic, Burlington, N. C., for construction of a manufacturing plant. J. R. Copeland is president of the company, and H. V. Biberstein, of Charlotte, N. C., is the engineer for the project.

Dauray Textiles, Inc., care of Charles J. Dauray, Mattity Rd., North Smithfield, R. I., recently organized by Mr. Dauray and associates, are acquiring former Big Cedar Inn, Roosevelt Ave., Bridgeton, R. I., and will remodel and equip for yarn spinning and twisting.

Duplan Corp., Winston-Salem, N. C., has purchased a large tract of land at Walker and Mineral Springs Roads, and as soon as materials are available, will construct a plant that will produce more than double present output.

E. I. du Pont de Nemours & Co. has purchased the plant of Lincoln Fiber & Specialty Co., Newport, Del., for use by the Rayon Division for experimental textile work located for the last 10 years in the plant of Aberfoyle Mfg. Co., Chester, Pa. It is understood that the weaving facilities will be considerably enlarged.

John Hand & Son, Paterson, N. J., have sold their Paterson plant to Nathan N. Platt, a silk weaver. Reported cost was $60,000.

LaFrance Industries, Inc., has sold about two-thirds of its group of buildings at Orthodox and Large Sts. to James M. Burke who will hold title for the Northwood Textile Mills, Inc., Philadelphia, Pa.

Minnewawa Mfg. Co., Knoxville, Tenn., the only jacquard weaving plant in Tennessee, has sold controlling interest to Walter Frenz, who will manage the mill, and Edith Domina, both formerly associates of E. W. Blumbock, of Marlboro, N. H.

New Spun Fibers, Inc., Lenoir, N. C., a subsidiary of American Yarn & Processing Co., Mount Holly, N. C., has been established with Eugene Timanus in charge.

Peerless Mills Co., Inc., Pawtucket, R. I. plans expansion that calls for installation of 500 new rayon looms in the plant of the old Royal Weaving Co., of which 100 already have been installed. About 320 new workers will be employed.

Virginia Textiles, Inc., an affiliate of Coventry Co., Coventry, R. I. has purchased the old Windham Silk Co. plant in Willimantic, Conn. The new owners are moving from Charlottesville, Va., to the first floor of the building.

Verney Mills, Manchester, N. H., have constructed a new basement weave room, 220x100 ft., with a concrete floor, cushioned and topped with asphalt tile. Robie Construction Co., Manchester, did the work.

H. Warshow & Sons, Inc., Montoursville, Pa., will award contract soon for one-story addition, reported to cost over $70,000, with equipment. Lockwood, Greene Engineers, Inc., New York, N. Y., are engineers.

Processing Plant News

Arkwright Finishing Co., West Warwick, R. I., has commissioned Henry A. McClean & Son., Providence architects to prepare plans for a one-story office addition, 30x40 ft., brick and steel construction, to be built on Phoenix street.

Hanes Dyeing & Finishing Co., Winston-Salem, N. C., plans one-story addition, totaling about 28,600 sq. ft. floor space, to cost over $85,000, with equipment.

Rock Hill Printing & Finishing Co., Rock Hill, S. C. (previously reported), has let contract to Potter & Shackelford, Inc., Greenville, S. C., for addition and improvements in present mill. Cost reported about $625,000, with equipment. Lockwood, Greene Engi-

Ready to Go... REGARDLESS OF RAIN

Thanks to AQUAROL

REG. U. S. PAT. OFF.

The ultimate in water-repellent finishes

AQUAROL is now available for civilian use for weather proofing fabrics, giving the same protection to the fabrics as given to our Armed Forces.

Mill men know that to specify Aquarol is to assure high water-repellent efficiency for overcoatings, ski suits, sport jackets and slacks and all kinds of rainwear fabrics.

Aquarol will assure customer satisfaction and added sales value without increasing finishing costs.

Produced to meet government specifications during the war and now to meet the demand of the public.

ARKANSAS CO., INC.

Manufacturers of Industrial Chemicals For Over 40 Years.

NEWARK NEW JERSEY

BACK AGAIN / and Better Than Ever!

DEVOE ALKYD-BASE **FLOOR & DECK ENAMEL**

Now that the war is over, Devoe Floor & Deck Enamel is again available with an alkyd-base—is again made from selected oils and sound synthetic resins that impart maximum durability. Devoe Floor & Deck Enamel is a general purpose enamel of pre-war quality *plus*, deriving new and important advances from Devoe's constant, war-inspired laboratory research and study. You'll find Devoe Floor & Deck Enamel ideal for use on interior and exterior floor surfaces of concrete, wood, canvas and linoleum; on machinery, interior metal surfaces, as a dado enamel in wall-painting work; in a wide variety of applications.

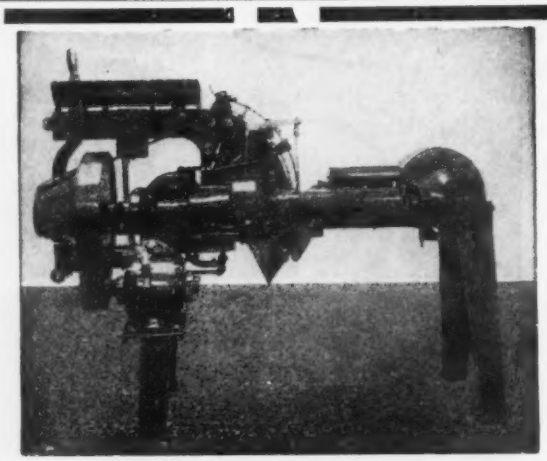
Outstanding advantages of DEVOE FLOOR & DECK ENAMEL

1. **ELASTIC:** Withstands expansion and contraction due to temperature changes.
2. **EASY BRUSHING:** Spreads evenly, easily . . . is self-leveling.
3. **WASHABLE:** Hard, glossy finish, is easy to wash.
4. **HIGH GLOSS:** Tile-like finish, is water and alkali resistant.
5. **QUICK DRYING:** Dust free finish.
6. **UNUSUAL OPACITY:** Exceptional hiding qualities.

Devoe offers a complete line of maintenance paints, and is prepared to help solve your maintenance paint problems. Write Devoe today.

DEVOE PAINT

787 FIRST AVENUE, NEW YORK 17, N. Y.



THE TYPE K BOBBIN STRIPPER

HIGH CLEANING CAPACITY
Protects barrel and finish. Usually pays for itself in one year—always within 18 months.

Complete information promptly furnished upon request

The Terrell Machine Co., Inc.

CHARLOTTE, N. C.

W. J. Westaway Co., Ltd.....Hamilton and Montreal, Canada
James F. Notman.....Needham, Mass.—N. E. States
E. W. S. Jasper, Inc., Elizabeth, N. J.—Penna., N. J. and N.Y.
Geo. Thomas & Co.....Manchester, England—European Agt.

neers, Inc., Spartanburg, S. C., are engineers.

Southern Bleaching & Print Works, Taylors, S. C., have begun one-story addition to finishing mill, for which general contract recently was awarded to Daniel Construction Co, Greenville, S. C. Cost reported over $85,000, with equipment. J. E. Sirrine & Co., Greenville, are engineers.

Knitting Mill News

Alberta Textile Mill, Wilmington, N. C., has started up in buildings formerly used by the NYA and later as a German prisoner-of-war camp. Production is cotton and cotton-rayon hose, wool sweaters, sports sweaters, and other knitted garments. Two hundred knitting machines have been installed and O. V. Radecky is the general manager.

Burlington Mills Corp., Greensboro, N. C., has approved plans for one-story addition to hosiery mill at Asheboro, N. C., to cost about $100,000, with equipment.

William Carter Co., Barnesville, Ga., has begun an expansion and improvement program in the bleaching and dyeing departments. Later the same type programs will be carried out in the drying and cloth finishing departments.

Chadbourn Hosiery Mills, Charlotte, N. C., with other plants in Siler City, Gibsonville, Burlington, and Midland, N. C., and Shenandoah, Va., have purchased the entire capital stock of the Full Knit Hosiery Co., Burlington, N. C. Under the new management J. C. Bolles, president of Chadbourn, becomes president and treasurer of Full-Knit.

Ellian Mfg. Co., Philadelphia, Pa., has leased the fifth floor of the Aberle Building, northeast corner of A and Lippincott streets, comprising 20,000 sq. ft. of space for the manufacture of knit goods.

Full-Knit Co., Shelby, N. C., plans one-story mill on local site recently acquired. Cost reported over $70,000, with equipment.

Fox River Valley Knitting Co., Appleton, Wis., has work under way on two-story and basement addition, 70x71 ft.

Glen Hosiery Mills, High Point, N. C., has let general contract to E. E. Younts, High Point, for one-story addition, to cost about $50,000.

Grey Hosiery Mill, Bristol, Tenn., plans to construct a modern building.

Harrison Hosiery Mills., Inc., Waltham, Mass., plans one-story mill on Soldiers' Field Road, Brighton, Boston, Mass., 70x153 ft., to cost over $80,000, with equipment. Sumner Schein, 333 Washington St., Boston, is architect.

Hudson Hosiery Co., Charlotte, N. C., has purchased 4-acre tract of land on Highway 18, near Shelby, N. C., and will use as site for new mill.

King Craft Hosiery Mills, Charlotte, N. C., operated by Herman S. and E. B. Dersch, has moved from Kingston Ave., to its new plant in the Mint Hill community of Mecklenburg County, N. C.

Malden Knitting Co., Malden, Mass., has established the Revere Textile Co. Revere, Mass. Several worsted spinning frames have been installed for production of worsted yarns.

Overlook Knitting Mills, Marion, N. C., have acquired machinery and equipment of R. L. James & Son, Marion, and plan early installation in local building for new mill.

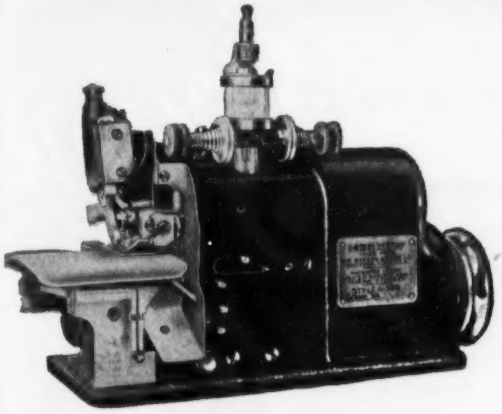
Phoenix Hosiery Co., Milwaukee, Wis., is completing plans for new two-story mill at Beaver Dam, Wis., 80x160 ft., to cost close to $150,000, with machinery. Eschweiler & Eschweiler, 720 East Mason St., Milwaukee, are architects.

Plymouth Hosiery Mills, High Point, N. C., plans one-story mill at Willowbrook and Russell Sts., reported to cost $60,000, with equipment.

Se-Ling Hosiery Mill, Nashville, Tenn., closed since Sept. 6 by a strike, is being dismantled.

Whisnant Hosiery Mills, Hickory, N. C., plans to spend more than $500,000 for new equipment and modernization.

Winona Knitting Mills, Inc., Winona, Minn., plan a four-story addition, totaling 22,500 sq. ft of floor space. Cost is reported at close to $150,000 with equipment.



Merrow Class A Machines, illustrated, have made possible quality production, high speed and low operating costs to a degree greater than ever before. They are easy to handle, simple to adjust, sturdy in design, accurate in workmanship and readily adapted to many kinds of work. Let us or our distributor nearest you demonstrate the work of these machines on samples of your own fabric.

TRADE MARK
MERROW HIGH SPEED
REG. U. S. PAT. OFF. AND IN FOREIGN COUNTRIES

OVEREDGING, OVERSEAMING AND HEMMING MACHINES

For Use on Knitted and Woven Wear of All Kinds

Quality Results—High Production
Convenient Handling
Minimum Time-Out for Adjustment
or Repair—Low Upkeep Costs

Obtain Maximum Quality Production by Using a Machine Suitably Arranged for Your Work—Our Distributors or Our Direct Representatives Are on Call to Advise You on Suitable Machine Arrangements for Various Results and Proper Care and Operation of Machine.

ESTABLISHED 1838 INCORPORATED 1894

THE MERROW MACHINE COMPANY
STARTING ITS SECOND CENTURY
2803 LAUREL STREET **HARTFORD 6, CONN., U. S. A.**

Acme Products

for seamless hosiery knitting

Speak for Themselves

Up-To-Date Machines
Needles

Economy Makers

ACME KNITTING MACHINE & NEEDLE CO.
FRANKLIN, N. H.

CRANE
KNITTING MACHINES

meet the needs for Speed—
for Quality and Low Cost

CRANE Knitting Machines meet the demands of rapidly changing patterns and styles. Their middle name is versatility . . . plus smooth, fast running operation that eliminates expensive stops. Among their exclusive features are patented hardened Wing Burr Wheels and patented Thread Stop Motion. There's many a Knitting Mill in which batteries of Cranes are the mainstay of production.

Let us tell you why
—and how . . . just **WRITE**

1870 **CRANE** 1945

MANUFACTURING CO.
LAKEPORT, N. H.

Spring Latch Needle
KNITTING MACHINERY

Let Southworth Help You

Let Southworth help you in making your plans for more Peacetime Business and Profits. Get the increased production and lower costs made possible by SOUTHWORTH'S new, improved, TEXTILE HUMIDIFYING SYSTEMS.

A new SOUTHWORTH system will give you a simplified design that means better evaporation and more sensitive control combined with exceptionally flexible power.

Write Today for Complete Information

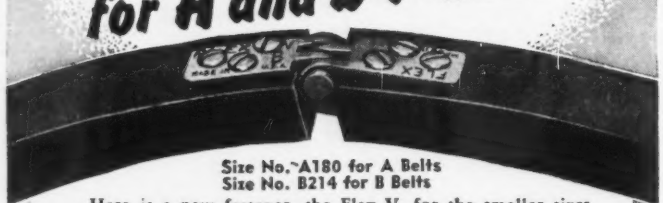
Southworth Machine Co.

Textile Humidifying Systems

30 E. WARREN AVE. PORTLAND, ME.

and now the **FLEX V** TRADE-MARK

A new Fastener for A and B V-belts



Size No. A180 for A Belts
Size No. B214 for B Belts

Here is a new fastener, the Flex V, for the smaller sizes of V-belts that is going to establish the same outstanding performance record as the Alligator V-belt fastener has already established for the larger sizes of V-belts.

This new Flex V fastener is made in two sizes for A and B section V-belts. It is simple in design, easy to apply and the separable hinge joint makes for quick replacement of V-belts without dismantling shafting or machinery. No metal touches the pulley so Flex V fastened belts can be run on a V-flat drive.

Folder No. V-12 gives complete details on this new Flex V fastener with list prices, special tools and application information. Your request will bring a copy.

Order from your supply house

FLEXIBLE STEEL LACING CO.

4630 LEXINGTON ST., CHICAGO 44, ILLINOIS

Also sole manufacturers of Alligator Steel Belt Lacing for flat transmission belts. Alligator V-belt Fasteners for V-belts and Flexco HD Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

NEWS ABOUT Men

J. M. Hatch has resigned as secretary-treasurer of Hatch Full-Fashioned Hosiery Co., Belmont, N. C., and **Frank P. Hall** has been elected to succeed him. **Henry A. Lineberger** has been elected chairman of the board and manager of the mill. **A. C. Lineberger, Sr.**, remains as president, and **R. L. Stowe, Sr.**, as vice-president.

Nathaniel Stevens, president of M. T. Stevens & Sons Co., and dean of the New England textile industry, celebrated his 88th birthday at his home in North Andover, Mass., on Sept. 11. Mr. Stevens has been associated with the business founded by his grandfather for about 71 years and even now at his advanced age is the executive head of the company.

H. B. Goldberg and **Walter J. Schadd** are president-manager and treasurer, respectively, of the newly formed H. & H. Yarn Co., Millbury, Mass.

Sidney H. Scheuer, who has been executive director of the Bureau of Supplies of the Foreign Economic Administration and executive vice president and chairman of the executive committee of the U. S. Commercial Co., has returned to Scheuer & Co., New York, textile consultants and brokers. Mr. Scheuer has been with the government in Washington for the last three and a half years.

Julian Robertson, after being in the armed services for three years lately as lieutenant-colonel, has been given his honorable discharge and has returned to his duties as president of the North Carolina Finishing Co., Yadkin, N. C.

Earle Mauldin, Atlanta editor of TEXTILE WORLD, talked on the "Service Rendered by the Business Press", before the Chattanooga Engineers Club, Chattanooga, Tenn., last month.

Stanley Converse has been elected president and treasurer of the Clifton Mfg. Co., Clifton, S. C., succeeding the late J. Choice Evans. Mr. Converse was formerly vice-president.

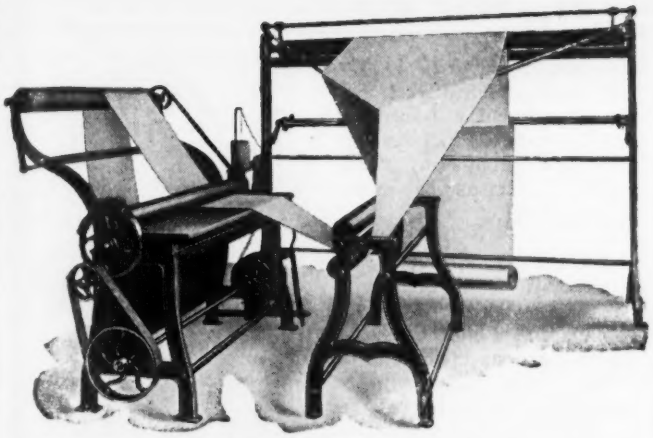
JAMES P. KINARD, Jr., who is president of the newly formed selling house of Kinard & Co., New York, which will sell piece goods made in the woolen and rayon mills of Marshall Field & Co., Manufacturing Division, Spray, N. C. This new selling arrangement becomes effective on Jan. 1, following the present contract with William Whitman Co. Mr. Kinard, a Clemson graduate, served his apprenticeship with the former Hunter Mfg. & Commission Co. in New York. He was later with Deering Milliken & Co., and finally with William Whitman Co. as head of the gray goods department. He joined the Army in 1942 in QMC and was promoted to lieutenant-colonel in 1944. More recently he was assigned to the textile bureau in WPB.

S. J. DuPre has been elected president and treasurer of the D. E. Converse Co., of Glendale, S. C.

Richard T. Scott has resigned as president of the Durene Association of America, New York. He will join the United Hosiery Mills Corp. Chattanooga, Tenn.

Henry M. Tichenor, after serving for nearly three years in the Navy, has returned to his duties as president of Walton Cotton Mill Co., Monroe, Ga.

Thomas P. Milligan, vice president in charge of bookbinding sales, of Athol Mfg. Co., Athol, Mass., has been appointed to the newly-created post of sales promotion manager. Mr. Milligan will retain



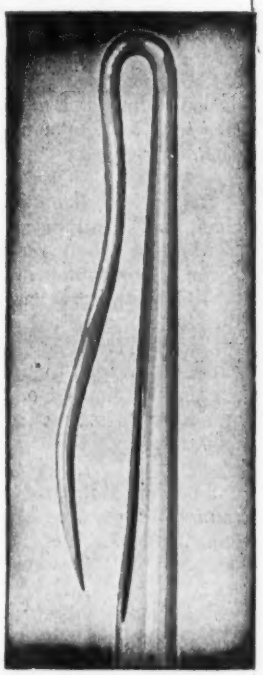
No. 27—IMPROVED DOUBLING AND TACKING MACHINE

Sewing any length stitch up to 1¼ in., making a firm, strong stitch for any weight or width of goods. This machine is equipped with our latest oscillating needle bar sewing head, which makes it the fastest tacking machine on the market for tacking the selvages of woolen and worsted fabrics. For further information, send for our catalog.

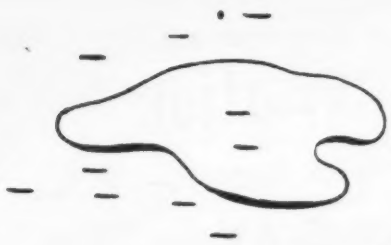
DINSMORE MFG. CO.
SALEM, MASS.

CHARLES COOPER CO., INC.
Bennington, Vermont
Manufacturers of
Quality LATCH and SPRING-BEARD

NEEDLES



also
Manufacturers of **THE FAMOUS COOPER CIRCULAR SPRING-NEEDLE RIB KNITTING MACHINES**



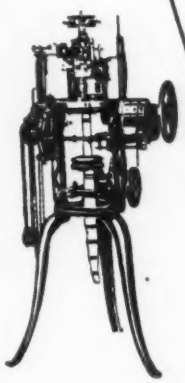
UP GOES PRODUCTION

DOWN COMES OVERHEAD

WITH **BRINTON**
CIRCULAR KNITTING MACHINES

BRINTON Circular Knitting Machines keep quality high—increase production—lessen shut-downs—and reduce overhead. They keep on performing day after day—with a minimum of attention. That's why you'll find Brinton's in the largest mills, where accurate and scientific records are kept to tabulate the performance of every unit. • We have been making Brinton's for over fifty years, and will be happy to figure with you on your immediate requirements.

Your inquiry will bring full particulars.



BRINTON
3700 KENSINGTON AVE.
PHILADELPHIA 24, PA.

An invitation

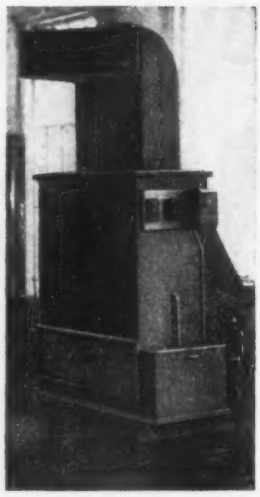
GET THE FACTS ABOUT

AIR-PERME-ATOR

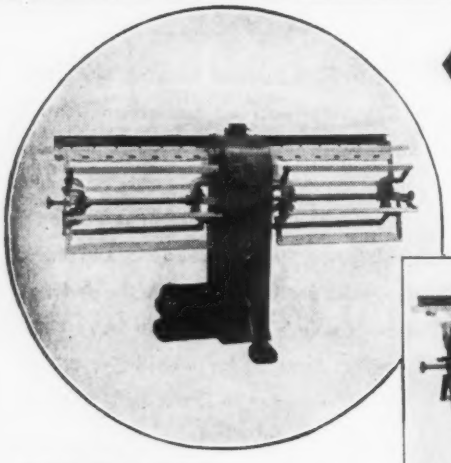
the most economical and efficient means of humidifying your plant.

- **No free moisture to rust equipment or damage yarns.**
- **Fully automatic.**
- **Used and approved by leading mills.**

Ask for booklet TW and names of users.

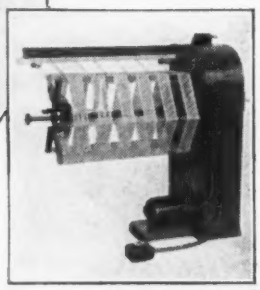


AIR-PERME-ATOR
Manufacturing Co.
Paterson, New Jersey



Double-End Reeler for long skeins of fine count yarns.

Single-End Reeler for shorter skeins of medium and coarser counts.



FIDELITY SKEIN REELERS
give you these 9 Advantages

1. All work at comfort level—no high lifting.
2. Less floor space—from 13% to 55% saving.
3. Less idle time per reel.
4. Less net doffing time.
5. Greater production in pounds of yarn per hour.
6. Generally shorter winding time through speed changes.
7. Fractional HP gear-head, brake-motor with foot-button release to leave operator's hands free.
8. Available to give straight or diamond "lay."
9. Easy, accurate control of skein weight and yardage.

Detailed information on request.

FIDELITY MACHINE COMPANY
3908-18 FRANKFORD AVENUE, PHILADELPHIA 24, PA.

NEWS ABOUT MEN

his present activities in the bookbinding fabric market. The new department will focus especially upon product development and promotion of the company's Terson vinyl-resin-coated fabrics.

William D. Gardner, vice president in charge of sales of Alexander Smith & Sons Carpet Co., Yonkers, N. Y., has resigned effective January, 1946, in conformity with the company's retirement plan. He is completing his fifty-second year in the carpet business.

Edward W. France, former director of Philadelphia Textile School and a member of NACM since 1896, and **Charles H. Eames,** former president of Lowell Textile Institute and a member of NACM since 1907, were unanimously elected honorary members of the National Association of Cotton Manufacturers at the recent annual meeting in Boston in recognition of their outstanding contributions to the industry through raising the standards of textile education.

Frank P. Hall, Belmont, N. C., has been elected secretary-treasurer of Hatch Full-Fashioned Hosiery Co., to succeed **J. M. Hatch,** resigned.

D. St. Pierre DuBose, vice president and treasurer of Durham Hosiery Mills, Durham, N. C., has been honorably discharged from the Army after serving three years with the Army Air Corps., and has returned to his duties at the mill. He was a lieutenant-colonel when discharged.

Col. J. P. Baum, retiring chief of Clothing Section, Clothing & Equipage Branch, Stores & Distribution, Office of QM General, has been awarded the Legion of Merit for outstanding service in the war effort. He is soon to join M. T. Stevens & Sons Co., North Andover, Mass., as industrial engineer.

Siegfried Kellerman, for a number of years with Malden Knitting Mills, Inc., and Malden Spinning & Dyeing Co., Inc., Malden, Mass., has resigned from that organization and opened his own mill, the Colonial Spinning Mills, Andover, Mass.

George K. Cutter, vice-president of J. H. Cutter, Inc., Charlotte, N. C., has been elected vice president in active charge of the Cutter Mfg. Co., Rock Hill, S. C.

JOHN RICHARDSON, formerly of Crompton & Knowles Loom Works, who has returned from China and India, where he saw service as lieutenant colonel in Army Air Corps. He will be a partner in Adams, Richardson & Co., Graybar Building, New York, a new firm established to merchandise textile and other equipment and supplies and to promote inventions in machinery.

Jack D. Towery has been appointed to the textile engineering staff of the Institute of Textile Technology, Charlottesville, Va.

G. E. McClellan, manager of the Spruance unit of the E. I. du Pont de Nemours & Co., Amphill, Va., for the last four years, has been appointed to director of production of the rayon division, succeeding **Arlington Kunsman,** who has been promoted to assistant manager of the cellophane division. **A. B. Walmsley, Jr.,** succeeds Mr. McClellan.

George Asnip, late a lieutenant-colonel in the United States Army has rejoined La France Industries as general manager of the Pendleton Mfg. Co., La France, S. C., a division of La France Industries.

William Marshall has resigned after brief service as secretary of the American Cotton Manufacturers Association, and has returned to Wadesboro, N. C., to resume the practice of law. His duties are being assumed temporarily by **Mrs. Elizabeth Lammie,** of Richmond, Va., former assistant secretary of the Virginia Bankers Association.

Robert Jackson, Gastonia, N. C., promotor and organizer

Machine and Hand Knitting

Yarns

[French-Bradford]

for

BATHING SUITS
OUTERWEAR
HOSIERY
UNDERWEAR

★

Complete color assortments

American Woolen Company

225 Fourth Avenue **New York**

Protect Valuable Motors and Machinery ***Clean them with—***

TORNADO Portable Electric Blowers

PREVENT motor burnouts, overheating and shutdowns. Keep motors and machinery clean. Blow out dust, dirt, lint, chips, etc. with the powerful, portable TORNADO Electric Blower. Quickly pays for itself in cutting repair and replacement costs. Write for details and **FREE Trial Offer**

BREUER ELECTRIC MFG. CO. 5086 Ravenswood Ave. CHICAGO 40, ILLINOIS

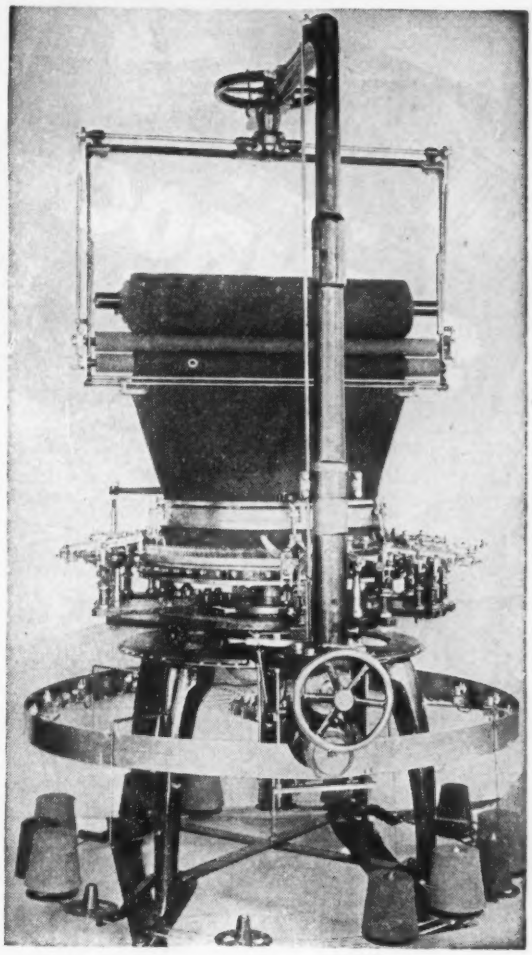
THE LOYAL T. IVES COMPANY EST. 1874

SPRING BEARD KNITTING NEEDLES

For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines; Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

Sheet Metal Specialties to Order

NEW BRUNSWICK NEW JERSEY



4 reasons for using

TOMPKINS

SINGLE HEAD—SPRING NEEDLE

KNITTING MACHINE

1. **50% reduction in cost of production on most coarse or fine fabrics.**
2. **Virtually double the poundage produced by earlier models of Tompkins spring needle machines.**
3. **Produces a superior quality of knitted fabric, getting the most out of every grade and size of yarn.**
4. **Basis of all statements is on actual mill performance and production on S-1 models now installed.**

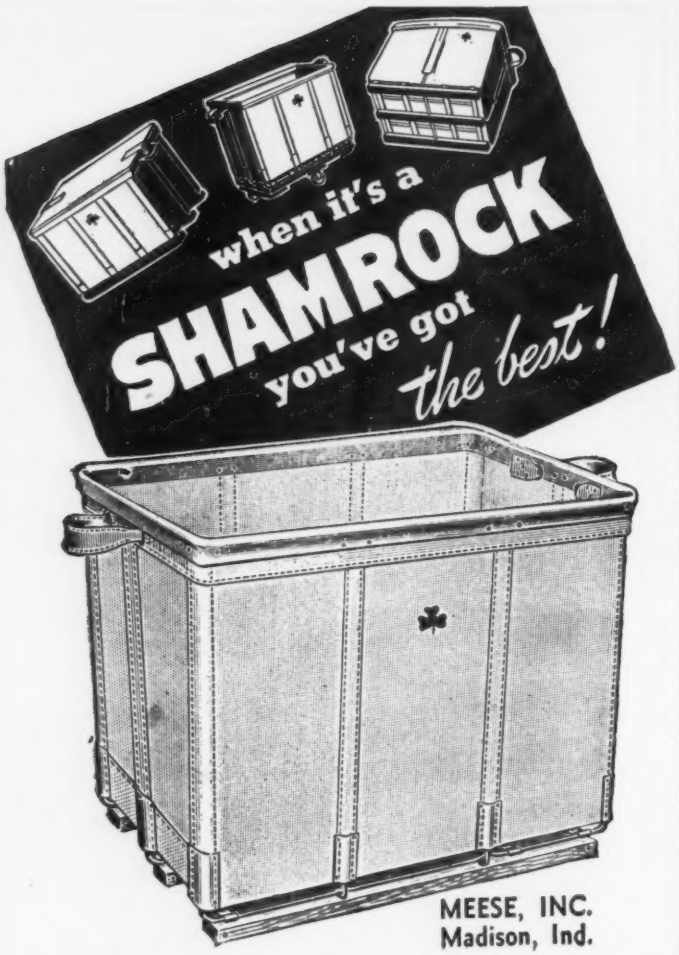
All reasons that will save you money! The new S-1 single head spring needle machine is especially designed for overcoating materials. At the same time, any fabric can be knit on it that is knit on the older type spring needle table. Production is appropximately 100 yards per 8 hour day, using 6 feeds.

For further details write us direct.

TOMPKINS BROS. CO.

INCORPORATED

ONEIDA ST. **SYRACUSE, N. Y.**



Determine Moisture Content
Within a FEW MINUTES
ACCURATE
DEPENDABLE
Inexperienced Help Can Easily Operate
For testing raw stock, cotton, wool, silk, rayon, yard goods, etc.
The Moisture Teller is an inexpensive moisture tester. It assures savings in processing time, reduces rejections and improves product quality. Successfully used by many industries.
CONTROL EQUIPMENT
SAVES TIME
Harry W. Dietert Co.
9330 ROSELAWN
DETROIT 4, MICH.

NEWS ABOUT MEN

ot Gastonia Full-Fashioned Hosiery Mill, and its former manager, has accepted a position with the sales department of American Viscose Corp., at Charlotte, N. C.

R. A. Hartman has been appointed mid-western divisional sales manager of the women's and children's division and executive-in-charge of the newly instituted sales-training program of Munsingwear, Inc., Minneapolis.

Ray C. Pillsbury, formerly of Universal Winding Co., Providence, R. I., has become assistant to **Hervey Kent,** owner of the Exeter Mfg. Co., Exeter, N. H.

Carl L. Stronach, former treasurer of Worumbo Mfg. Co., is now treasurer of the Diamond Stores, a chain of super-markets in Westchester County, N. Y., and adjacent towns. **Melbourne W. Smith,** formerly with Spark, Mann & Co., will take over the treasurership at Worumbo.

Oswald Fauteux was recently promoted to plant manager of Stevens Spinning Co., Fall River, Mass.

George E. Spofford, Jr., has become general manager of the Manchester, N. H., plant of Chicopee Mfg. Co.

William N. Chase, manager of rayon staple fiber sales of American Viscose Corp., resigned Nov. 1 to join Burlington Mills Corp., Greensboro, N. C., as assistant to **William Klopman,** senior vice-president.

Mrs. Mildred Barnwell Andrews, formerly executive secretary of Southern Combed Yarn Spinners Association, has been given a special research assignment by Luther H. Hodges, vice-president of Marshall Field & Co. and general manager of the Manufacturing Division. Her work will be concentrated on a number of the firm's textile products.

Siegfried Kellerman, who has been connected for the last 15 years with Malden Knitting Mills, Inc., and Malden Spinning & Dyeing Co., Inc., Malden, Mass., has resigned from his position as superintendent. He has opened his own mill, the Colonial Spinning Mills, River Works, Andover, Mass.

Dr. Hugh M. Brown has been appointed dean of textiles of Clemson College, Clemson, S. C. Dr. Brown, a member of the Clemson College faculty since 1927, and former head of the physics department, has returned to the college following a 27-month leave of absence to work with a British-Canadian-American radar project devoted to the development of navigational aids.

John B. Baum, before entering the army, assistant manager of Pepperell Mfg. Co., Opelika, Ala., division, will join the executive staff of M. T. Stevens & Sons Co., North Andover, Mass., in the capacity of industrial engineer. He has been with the Quartermaster Corps since 1940, lately with rank of colonel.

Dr. J. G. McNally, formerly an assistant works manager of Tennessee Eastman Corp., at the atomic bomb Clinton Engineer Works in Oak Ridge, Tenn., is now at Kingsport, Tenn., where he has become director of research of Tennessee Eastman Corp., plant.

Vere Painter, lately colonel in QM Corps, has been named as resident manager of the Wood Worsted Mills, Lawrence, Mass. Colonel Painter has 25 years' service with the Quartermaster Corps.

Robert Potter has resigned as manager of rayon staple fiber sales in the Rayon Division of E. I. du Pont de Nemours Co., after being with that company for 20 years. He will become assistant to **Charles Greenhalgh,** treasurer of Greenhalgh Mills, Pawtucket, R. I.

A. Carl Martin, Jr., for several years manager of Laurens Cotton Mills, Laurens, S. C., has become general manager of Hannah Pickett Mills, Rockingham, N. C.

Richard MacHenry, has joined the industrial division of the textile research department of American Viscose Corp., New York. He was formerly acting chief of the design section of the Naval Ordnance Laboratory in Washington.

G. Robert Dodson has been appointed assistant manager of the sweater division of Jantzen Knitting Mills, Portland, Ore. Mr. Dodson, lately lieutenant-colonel, had been sales manager of the sweater division until he

MINEROL

The OUTSTANDING Conditioner for Textile Fibres

- Makes fibres more supple, pliable
- Reduces breakage of long fibres
- Minimizes ends down at high speeds
- Provides control of static conditions
- Aids combing as well as carding
- Saves good fibres, lessens waste
- Improves employee morale through prevention of dust and fly.

SERVING THE TEXTILE INDUSTRY FOR 68 YEARS.
ORIGINATORS OF THE BRETON MINEROL PROCESS FOR CONDITIONING FIBRE.

BORNE SCRYMSER COMPANY
ELIZABETH · NEW JERSEY

PENICK & FORD, LTD., INCORPORATED

CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS
NEW YORK, N. Y. · · · · CEDAR RAPIDS, IOWA
SOUTHERN OFFICES: ATLANTA, GA. · · · · SPARTANBURG, S. C.

John:
The Starches and Gums which Penick and Ford manufacture for polishing twine and cord have been developed for every phase of this operation.
Lets try their recommendation.
Jim

STANDARD SILICATES

ALKALI

DEPENDABLE-UNIFORM

Combining high soil-suspending power with controlled alkalinity over a wide range, STANDARD TEXTILE SILICATES are made in grades to meet your particular needs *exactly!*

DIAMOND ALKALI COMPANY
STANDARD SILICATE DIVISION
GENERAL OFFICES: PITTSBURGH, PENNSYLVANIA
Plants at CINCINNATI · JERSEY CITY · LOCKPORT, N.Y. · MARSEILLES
DALLAS, TEXAS

Headquarters for every type Bobbin
For over 45 years, Cloverleaf Bobbins have been built to meet, with scientific exactness, the varying conditions and processes of individual manufacturers.
No matter what type bobbin you need, come to Cloverleaf. Our Organization is constantly engaged in developing new types of bobbins, keeping ahead of every need of the Textile Industry.
CLOVERLEAF MANUF'G CO.
HONESDALE, PA. : : SINCE 1899
W. A. Kennedy, Dillworth Station, Charlotte, N. C.; Dana R. Crawford, Box 176, Providence, Rhode Island

CLOVERLEAF
Bobbins . . . . . .

INDUSTRIAL ENGINEERS
Specializing in
TEXTILES FOR MORE THAN A QUARTER OF A CENTURY
RALPH E. LOPER CO.
COST SYSTEMS WORK LOAD STUDIES
PAY ROLL CONTROLS
COST REDUCTION SURVEYS SPECIAL REPORTS
GREENVILLE, S.C. FALL RIVER, MASS.

CHAPMAN
STATIC
NEUTRALIZER
Reduces waste and Stabilizes the production rate in many operations
USED ON
CARDS - CONDENSERS - DRAWING FRAMES
SLASHERS-WARPERS-GARNETTS-FOLDERS-DRYERS
NAPPERS - SHEARS AND MANY OTHER MACHINES
CHAPMAN ELECTRIC NEUTRALIZER CO.
BOX 268, PORTLAND, MAINE

was called to active duty as a major in Air Corps in 1941.

Edward A. McAbee, has become manager of the Fabric Development Department of the Rayon Division of E. I. du Pont de Nemours & Co. assuming the post vacated by **Waldemar Kuenzel,** who resigned to join Deering Milliken & Co. some months ago.

C. Walter Seidel, Chicago, has relinquished the midwestern representation of Firestone Industrial Products Co., Fall River, Mass., as of November 1, 1945.

Joseph L. Delany is now superintendent of Joanna Textile Mills, Goldville, S. C., in a reassignment of duties at that plant. Other department heads are: W. K. Waits, assistant superintendent; Claude N. Franks, overseer of carding; J. M. Rowland, overseer of spinning; D. J. Buchanan, overseer of No. 1 weaving; E. J. Willingham, overseer of No. 2 weaving.

R. V. McPhail, formerly night superintendent of Locke Cotton Mills Co., Concord, N. C., has lately been released from the service, and has become assistant manager to Charles Ross at Ross Fabrics, Inc., and Duff Looms, Inc., Morganton, N. C.

Macon P. Miller has been appointed director of industrial and public relations for the mills of Marshall Field & Co., manufacturing division, Spray, N. C. He succeeds **R. H. Tuttle,** who has been appointed manager of the Zion Lace Curtain Mill, Zion, Ill.

Newton G. Hardie is the new general manager of Laurens Cotton Mills, Laurens, S. C. He was formerly general superintendent of Gossett Mills, Anderson, S. C.

Robert Collyer, has been appointed advertising manager of Roxalin Flexible Finishes Inc., Elizabeth, N. J. Mr. Collyer has been advertising manager for the Calco Chemical Division and of the Textile Resin Department of American Cyanamid Co.

Paul M. Jones, formerly advertising manager of the American Institute of Laundering, has joined the sales promotion division of the National Cotton Council, Memphis, Tenn.

Edward F. Rorke has been liberated as a Japanese prisoner of war and is in good physical condition, according to information received from the War Department by his mother, **Mrs. Margaret Hayden Rorke,** managing director of the The Textile Color Card Association, New York. He served on Bataan and was in the "March of Death."

Edward E. Connor, has resigned as acetate yarn sales manager for American Viscose Corp. after being associated with the company for more than 20 years.

Harry B. Watson has been appointed advertising manager for Alexander Smith & Sons Carpet Co. and C. H. Masland Mills, for whom Alexander Smith are sole selling agents. Offices are in New York.

Joseph Fiala has been appointed sales department head for Alexander Smith & Sons Carpet Co., New York, and Masland (Wilton) Carpets.

Ross M. Pfalzgraff has been appointed chief engineer of American Viscose Corp. Wilmington, Del., succeeding the late Hobart O. Davidson.

Sarto R. Gamache has been appointed assistant secretary, and **Sydney Jackson,** assistant controller at Manville-Jencks Corp., Manville, R. I.

Charles A. Cary, manager of the nylon division of the rayon department of E. I. du Pont de Nemours & Co., Wilmington, Del., has been appointed assistant general manager of the rayon department, the principal products of which are nylon, rayon and cellophane, succeeding **Benjamin M. May,** who has been appointed as general manager of the department, succeeding **Leonard A. Yerkes,** retired.

Walter O. Simon, manager of the Hanford Engineering Works, Richland, Wash., a major production unit of the government's atomic energy project, has been appointed manager of the Yerkes rayon plant of E. I. duPont de Nemours & Co. at Buffalo, N. Y. Mr. Simon succeeds **Cantwell Clark,** who has become manager of the nylon plant at Martinsville, Va.

RAPIDASE

for de-sizing cottons, rayons and mixed goods

Assures rapid, dependable de-sizing

Our technical staff always at your service.

WALLERSTEIN COMPANY, INC.
180 MADISON AVENUE • NEW YORK

ROME SOAP MFG. CO.

WRITE US FOR SAMPLES AND QUOTATIONS

MANUFACTURERS OF

Textile, Laundry

and

Special Soaps

ROME, N. Y.

D. R. KENYON & SON

RARITAN, N. J.

MACHINERY
TENTERING
and DRYING

VICTOR MILL STARCH

Always A Winner!

- ★ Penetrates Thoroughly
- ★ Dependable
- ★ Carries Weight Into the Fabric
- ★ Always Uniform
- ★ Boils Thin

The Weaver's Friend

Distributed by

CLAUDE B. ILER
Southern Manager
Greenville, South Carolina

L. J. CASTILE
Charlotte 3,
North Carolina

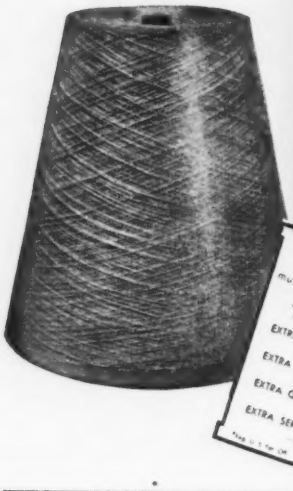
F. M. WALLACE
Birmingham 9, Alabama

C. C. SWITZER
Greenville, South Carolina

THE KEEVER STARCH COMPANY

COLUMBUS 15, OHIO

AMERICAN



. . . more economical to use because . . . . it runs more efficiently, producing a finer quality product that can be sold easier and more profitably

AMERICAN YARN AND PROCESSING CO

MOUNT HOLLY, N. C. NORTH CAROLINA

CHATTANOOGA, TENN. Mr. Tom Moore 736 Chestnut Street

PHILADELPHIA, PA. Mr. Wm. S. Montgomery 3701 N. Broad St.

HIGH POINT, N. C. Mr. E. J. Holbrook

MOUNT HOLLY, N. C. Mr. Edwin Hutchison Miss E. R. Abernethy Mr. T. J. Davis

NEW YORK, N. Y. Mr. Rowland Swallow Empire State Bldg.

CHICAGO, ILLINOIS Mr. E. W. Wood 222 West Adams St.

J. E. SIRRINE & CO.

GREENVILLE • SOUTH CAROLINA

Engineers

TEXTILE MILLS • RAYON PLANTS • KNITTING MILLS • DYE HOUSES
BLEACHERIES • STEAM UTILIZATION • STEAM POWER PLANTS
WATER • WASTE DISPOSAL • APPRAISALS • PLANS • REPORTS

"YOU CAN COUNT ON WAK COUNTERS"

They are
RUGGED
ACCURATE
DEPENDABLE

We build single, double and triple pick counters; yardage, rotary, ratchet and special counters.

Write — Phone — Wire

WAK INDUSTRIES CHARLOTTE, N. C.

Obituary

W. Winslow Lasley, 91, Burlington, N. C., for more than 30 years vice president of the E. M. Holt Plaid Mill, now a unit of the Burlington Mills Corp., and also president of the former First National Bank of Burlington, until his retirement 14 years ago, died Oct. 18 at his home in Burlington.

D. F. J. Lynch, director of the Southern Regional Research Laboratory of the Department of Agriculture, New Orleans, La., died suddenly Oct. 15.

George Mountcastle, 74, for many years vice president of Erlanger Mills, Lexington, N. C., and for 55 years connected in different capacities with a local bank, died Oct. 21.

William Kirk Greer, agent of Hoosac Mills, Inc., North Adams, Mass., associated with the textile industry since 1889 and former mayor of North Adams, died Oct. 19.

George C. Hadley, 67, treasurer of James Hunter Machine Co., North Adams, Mass., died recently. He had been with the company since 1899.

Louis H. Elliott, 71, sales manager of William Allen Son's Co., Worcester, Mass., died recently.

Alexander H. Stone, owner of the Stone Wool Co. Woonsocket, R. I., died Oct. 8 at Anderson, S. C.

Walter W. Lane, 28, master sergeant in the Second Armored Division, died Sept. 24 at the Walter Reed Hospital, Washington, D. C. He was formerly in charge of the Philadelphia office of Warwick Chemical Co.

Louie M. Lattimore, 46, connected with Lily Mills, Shelby, N. C., died Sept. 24.

Hubert H. Forck, 48, general manager of Nantex Mfg. Co., Greenwood, S. C., died recently.

C. A. Peterman, 53, representative in the Southeast and Southwest area for Iselin-Jefferson Co., and secretary of the Atlanta Textile Club, Atlanta, Ga., died recently.

Donald B. MacIntyre, 30, of Saylesville, R. I. who has been missing in action in France since Nov. 17, 1944, has been declared dead by the War Department. Staff Sergeant MacIntyre was formerly a salesman for the U. S. Plush Mills, Lonsdale, R. I.

John C. Tebbetts, 60, for a number of years associated with American Aniline Products, Inc., and manager of the firm's Boston office, died recently. Mr. Tebbetts joined the firm in 1918.

Horace Burrough, III, 49, assistant general manager of sales, Monsanto Chemical Co.'s Merrimac Division, died recently.

Raymond T. Hoopes, 54, district sales manager in the rayon division of E. I. du Pont de Nemours & Co., Wilmington, Del., died Oct. 14 at Philadelphia.

Albert H. Green, retired selling agent of Saco Lowell Shop, died recently in Manchester, N. H.

James J. Robinson, Sr., associated with the John B. Stetson Co., Philadelphia, Pa., for the last 45 years died Oct. 20.

George W. Duemler, 77, for the last 25 years foreman of engineers at Ormoka Mills, Philadelphia, Pa., died Oct. 5.

Ernest G. Ludwig, 68, foreman of dyeing at Apex Hosiery Co., Philadelphia, died Oct. 1.

John Adrian, 51, special representative of Sylvania Industrial Corp., died on Oct. 8 at Stamford, Conn.

Max Greenwald, superintendent of the Greenwood Mfg. Co., Greenwood, S. C., died Oct. 4.

William E. Felch, 82, for many years an overseer at the old Amoskeag Mfg. Co., Manchester, N. H., died recently.

George Z. Griffin, 56, superintendent of No. 7 spinning room of Cannon Mills Co., Kannapolis, N. C., died Oct. 1.

Wm. O. McElrath, 61, superintendent of the card room of Appleton Mfg. Co., Anderson, S. C., died recently.

2 STANDBYS FOR RAYON PROCESSING

V VIRGINIA

"VIRGINIA" *(LIQUID)* SO_2 **THE IDEAL ANTICHLOR**

A "natural" for rayon processing because low concentrations are highly effective.

★ removes active chlorine
★ neutralizes residual alkalinity
★ constant make-up by continuous flow

Shipped in steel cylinders containing 150 lb. net weight.

"VIRGINIA" *(MONOHYDRATE)* $ZnSO_4$ the high Zn content Zinc Sulphate prepared specifically to meet the purity standards of rayon processing.

— crystalline, free-flowing
— non-caking
— easily and quickly soluble

Packed in 100 lb. bags; 425 lb. bbls.

VIRGINIA SMELTING CO.
WEST NORFOLK, VIRGINIA

STYLE 28

ROVING TRUCK

LANE CANVAS TRUCKS

For the well equipped mill

W. T. LANE & BROS., Inc.
Manufacturers, Poughkeepsie, N. Y.

Prompt Delivery
ON BOTH STANDARD TYPES

— on **STEEL GRIP** Steel Lacing that is applied with a hammer. 11 sizes — convenient boxes or long lengths with wide belts. Have 2-piece hinged rocker pins.

—on **WIREGRIP** Belt Hooks that are applied with any lacing machine and come with extra blue aligning cards (patented) that assure uniform tension on every hook and prevent card-end waste.

Write for Circulars

ARMSTRONG-BRAY & CO.
"The Belt Lacing People"
5340 Northwest Highway, Chicago 30, U. S. A.

MAILING LISTS THAT WORK . . .

McGraw-Hill Industrial Mailing Lists are a direct route to today's purchase-controlling executives and technicians in practically every major industry.

These names are of particular value now when most manufacturers are experiencing constantly increasing difficulty in maintaining their own lists.

Probably no other organization is as well equipped as McGraw-Hill to solve the complicated problem of list maintenance during this period of unparalleled changes in industrial personnel. These lists are compiled from exclusive sources, based on hundreds of thousands of mail questionnaires and the reports of a nation-wide field staff, and are maintained on a twenty-four hour basis.

Investigate their tremendous possibilities in relation to your own product or service. Your specifications are our guide in recommending the particular McGraw-Hill lists that best cover your market. When planning your industrial advertising and sales promotional activities, ask for more facts or, better still, write today. No obligation, of course.

McGraw-Hill Publishing Co., Inc.
DIRECT MAIL DIVISION
330 West 42nd Street New York, 18, N. Y.

WE'VE LEARNED A LOT IN OUR 50 YEARS

50 years of specialized experience in producing tanks and tubs for the textile industry *has taught us some things that will be valuable to you!*

Let us tell you about our complete Caldwell service, which includes Stainless Steel-lined tanks and tubs—round, rectangular and special shapes. *Catalog on request.*

W. E. CALDWELL CO.
INCORPORATED
2060 Brook St. Louisville, Ky.

Caldwell TANKS AND TOWERS

SEARCHLIGHT SECTION

(Classified Advertising)

EMPLOYMENT : "OPPORTUNITIES" : EQUIPMENT
BUSINESS : : USED OR RESALE

UNDISPLAYED —— RATES —— DISPLAYED

10 CENTS A WORD. MINIMUM CHARGE $2.00
Positions Wanted (full or part time individual salaried employment only) ½ the above rates payable in advance.
Box Numbers—Care of publication New York, Chicago or San Francisco offices count as 10 words.
Discount of 10% if full payment is made in advance for 4 consecutive insertions.

Individual Spaces with border rules for prominent display and advertisements.
The advertising rate is $5.75 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.
An advertising inch is measured ⅞" vertically on a column—3 columns—30 inches to a page.

BOSS KNITTER WANTED

A well established Northern mill with excellent equipment can offer the right man a permanent position. Although he will not be asked to fix machines, he must be an expert fixer and able to instruct others. He should understand Acme Jenckes and Scott & Williams Models B. K. G. and H. H. machines running on heavy wool hosiery. Salary will be made attractive for a competent man.

Address in confidence

CHARLES P. RAYMOND SERVICE, INC.
294 WASHINGTON ST. BOSTON, MASS.

WANTED

BROAD GOODS and JACQUARD TECHNICIAN

Experienced man, capable of taking over technical developments of this type of weaving in one of America's best known textile organizations.
The mills are located in New England in a delightful community. Substantial salary. Address,

P-431 (Agency) Textile World
330 West 42nd St., New York 18, N. Y.

with full details, including snapshot (not returnable).

POSITIONS VACANT

HOSIERY MILLS superintendent wanted. Should be familiar with HSL full fashioned machines. Reply to P-411, Textile World, 330 W. 42nd St., New York 18, N. Y.

KNITTER AND Mechanic thoroughly experienced all types flat full automatic knitting machines. Able to knit in test and set up. Salary and bonus, opportunity. Apply Ainslie Knitting Machine Co., Inc., 750 Grand Street, Brooklyn, N. Y.

WANTED: OVERSEER to supervise ribbon mill operations on third shift. Ribbon mill experience not essential. We are looking for a man that has had some supervisory experience and knowledge of weaving. Well established concern in South Virginia—modern mill. Fine opportunity for advancement. Steady work all year round. Write advising age, education, experience and salary expected. P-412, Textile World, 330 W. 42nd St., New York 18, N. Y.

TEXTILE CHEMIST: Opening for man with B.S., experienced in production and textile processing of synthetic fibers, for textile development work. Should preferably be familiar with textile machinery used in synthetic fibre handling. P-447, Textile World, 330 W. 42nd St., New York 18, N. Y.

TEXTILE SCHOOL graduate experienced in weave construction and practical mechanical factory operation desired by American owned South American rayon weaving mill. Write giving background, education, snapshot and expected salary. P-449, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANT SPECIALIST in textiles for export to head up such a division with a well financed, highly regarded export-import firm. Must headquarter in New Orleans. P-450, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

WANTED
PRODUCTION SUPERINTENDENT

Established firm entering coating field requires services of production superintendent with thorough knowledge of plastic—Vinyl—Pyroxilyn coating (Knife method). Excellent opportunity. Replies will be treated in the strictest confidence.

P-435, Textile World
520 North Michigan Ave., Chicago 11, Ill.

POSITION VACANT

WANTED—OVERSEER for carding and spinning. This would be an opportunity for a good, ambitious second hand. State experience, references, salary expected, etc. Barnett Woolen Mills, 520 S. Muskego Ave., Milwaukee 4, Wisconsin.

DAVIS & FURBER mule fixer, or spinner with good knowledge of fixing. Good earnings and good chance for future advancement. P-448, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

POSITION OFFERING permanence and security is open with National Manufacturer. Technical education and mill experience in textiles plus good sales record and following among New England and Middle Atlantic cotton mills essential. Here is real opportunity for a future career. In reply give complete detailed account of experience, education and salary desired. P-451, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

WANTED PLANT Manager and designer—piece-dyed men's and women's wear. 100 looms, mill situated in Canada. State technical and moral qualifications. Knowledge French language. Salary wanted. Apply P-452, Textile World, 330 W. 42nd St., New York 18, N. Y.

ENGINEER, GRADUATE, production, job evaluation incentives, textiles preferred. Replies confidential, advise full particulars. P-453, Textile World, 330 W. 42nd St., New York 18, N. Y.

(Continued on opposite page)

Expanding Operations of

INDUSTRIAL RAYON CORP.

Offer Opportunities for

TECHNICAL PRODUCTION MEN

of top supervisory caliber with successful record in viscose, spinning and/or textile operations.

PLANT ENGINEERS

with technical competence and broad experience in chemical equipment, maintenance and powerhouse operations.

INDUSTRIAL ENGINEERS

and Job Study Men, highly qualified in labor efficiency, incentives and management controls.

Training prerequisites for above—chemical, chemical engineering, mechanical engineering, textile engineering.

Please send complete details to Vice President in Charge of Production.

INDUSTRIAL RAYON CORP.
Cleveland 1, Ohio

TEXTILE MECHANICAL ENGINEER

A mill has been constructed in the West Indies for defibering coconut husks, spining this fiber and sisal fibers into yarns, weaving of fabrics, making of bags, ropes, fenders, etc. The mill requires the services of a young engineer, a graduate of textile school, who has a few years practical experience in textile mills, operating with coarse materials. He must be a practical mechanic as well as having theoretical knowledge. Permanent employment at a good salary will be offered; the mill will consider a temporary engagement if applicant desires. Write, stating experience in full to

CHARLES P. RAYMOND SERVICE
294 Washington St., Boston

WANTED

CHEMIST

A Corporation with a good national reputation desires to employ an engineering chemist to be *trained* to take charge of a bleachery located in the South. Although some experience in bleaching and finishing would be helpful, it is not a requisite for the position.

Educational requirements are: C.E. Degree or industrial chemistry relating to textile manufacturing.

The accepted applicant will be trained in the company's existing bleacheries.

P-422, Textile World
330 West 42nd St., New York 18, N. Y.

(Continued from opposite page)

POSITIONS WANTED

IN WORSTED yarn of fabrics mill; to be in charge of testing and quality control, also desires to work into cost control. Textile engineering college graduate with eleven years experience in textile and allied industry, including six years laboratory work. Available in approximately 30 days. PW-454, Textile World, 330 W. 42nd St., New York 18, N. Y.

ARMY CAPTAIN: Five years woolen manufacturing experience. Textile school graduate. Age 30. Available November 15. PW-455, Textile World, 330 W. 42nd St., New York 18, N. Y.

ENGINEER: NOW employed wishes position as Plant Engineer in finishing plant. Am registered in one State as Professional engineer. Experience in steam generation and distribution, also electrical. Familiar with finishing plant machinery and maintenance. PW-456, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED JOB as boss knitter on Wildman or Scott-Williams machines. 25 years experience. PW-457, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

TEXTILE CHEMIST: and executive, 27, single. Philadelphia textile institute. Six years executive, manufacturing and processing experience. Two years with manufacturer of textile chemicals and finishes. Four years with dye houses processing rayon and cotton flat goods, velours, and plushes. Desire position as textile chemist or executive with dyehouse or converter. Best references. PW-458, Textile World, 330 W. 42nd St., New York 18, N. Y.

WORSTED CARDER & Comber seeks position with reliable firm. Capacity no object. 40 years experience as boss and superintendent, exceptional references. PW-459, Textile World, 330 W. 42nd St., New York 18, N. Y.

SELLING OPPORTUNITY OFFERED

YOUNG MAN to sell chemical to textile dyers in metropolitan district. Must have experience and a knowledge of dyeing. Must be ambitious and willing to start at the bottom to get this attractive and permanent position. Apply by mail only, giving complete details and salary expected. The Enequist Chemical Company, Inc., 255 Freeman Street, Brooklyn 22, N. Y.

BUSINESS OPPORTUNITY

HIGHLY CAPABLE rayon and silk throwster, well experienced in throwing for the dress goods, hosiery, underwear, embroidery and novelty yarn trade, desires to contact individual or group financially interested in establishing a throwing plant. Good results guaranteed, excellent references. BO-416, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED

LONDON: A Firm of city merchants wishes to purchase quantities of men's sound second hand wearing apparel. Please send full particulars through W-386, Textile World, 330 W. 42nd St., New York 18, N. Y.

COMMISSION HOSIERY dyehouse wishes to lease or purchase—dyehouse building with ample water and steam for production of 10,000 lbs. daily. In Phila. area. W-417, Textile World, 330 W. 42nd St., New York 18, N. Y.

CHEMISTS
Active, Confidential Service Both To Employer and Employees
We Invite Your Investigation
MISS GLADYS HUNTING—Counselor
Shay Employment Agency
30 W. Washington Chicago 2, Ill.

TEXTILE CHEMIST

AVAILABLE IN DECEMBER

After Release From Active Duty

B.S. in Textile Chemistry. Three years evaluating Textile finishes, oils, detergents, dyestuffs, water repellents, and water and fire-proofing agents.

If you are concerned with the quality of your products and the quality of your personnel, please write

Captain JACOB K. SMITH
1103d AAF Base Unit, Morrison Field
West Palm Beach, Florida

Production & Sales Executive Desires Change

Highly capable in manufacturing Rayon Broad goods & Ribbons, Jacquard Bedspreads, Draperies and Upholstering Fabrics, including dyeing & Finishing. Thorough knowledge of cloth construction, costing, planning and Time study. Textile Graduate desires Manager or General Superintendent.

PW-429, Textile World
330 W. 42nd St., New York 18, N. Y.

CONTROLLER

AVAILABLE

Former supervisor substantial N. Y. City firm of accountants, specializing in costs and financial controls; now on war-service appointment with major governmental agency; thoroughly familiar standard costs, and with business and costs problems especially in cotton, woolen and asbestos textiles, steel mills, machine tool and small tool, and abrasive plants; particularly interested medium-sized industrial, to whom accurate costs are a vital factor. Salary requirements, $9,000.

PW-443, Textile World
520 North Michigan Ave., Chicago 11, Ill.

BE PREPARED
for
NEW EXPORT SALES
Wanted Textile Agencies

Well connected and old established Manufacturers Agents having unrivalled connections with wholesale warehouses in Great Britain are prepared to accept representation of first class Manufacturers of Men's, Women's and Children Hosiery underwear and General Textiles.

C. CLUTTEN & SON
Textile Exchange Buildings
St. Paul's Churchyard, London, E. C. 4

ESTABLISHED AGENT
for machinery and equipment

Calling on textile mills and finishing plants desires an additional line for the Carolinas. Prefer machinery or supply item that is a repeat seller.

Write P. O. Box 454, Greenville, S. C.

AUTOMOBILE TEXTILES

Aggressive Detroit and middle-west Representation available to manufacturer of superior line; established top-flight contacts and confidence of purchasing executives assure acceptance quality product; inquiries invited.

RA-441, Textile World
520 North Michigan Ave., Chicago 11, Ill.

EXPORT TO SWEDEN

Well-known Swedish Import and Agency Firm wishes to contact *makers* of following articles—

Hosiery Men's Socks Underwear Shirts

All Kinds of CLOTHES for Ladies' Dresses.

Offers to "39143," care of Gumaelius Advertising Agency, Stockholm, Sweden.

SWISS WHOLESALE TEXTILE FIRM

Wants to take over for Switzerland representation or purchase on own account of textile fabrics of all kinds.

Corr. in English, French or German.

Offers with terms of delivery and eventually with samples to

RA-444, Textile World
330 West 42nd St., New York 18, N. Y.

PROFESSIONAL SERVICES

LANCASTER, ALLWINE & ROMMEL
Registered Patent Attorney
Booklet—"General Information Concerning Inventions & Patents" and "Fee Schedules" sent without obligation.
Patents—Copyrights—Trade-Marks
Suite 448, 815—15th St., N.W., Washington 5, D. C.

DESIGN & MANAGEMENT CORP.
(Otto Engelhard, President)
Engineering, design & development of labor-saving and textile machinery (knitting machines). Inventions and products developed, fabric analysis.
82 Beaver Street New York 5, N. Y.
HAnover 2-3807

SEYMOUR C. HYMAN, Chem. Eng.
Consultant for Industry on
MOISTURE AND FUNGUS PROBLEMS
For the duration of the war, Chief of Moisture and Fungus Proofing Section developing and applying tropic-proof materials for U. S. Army communications equipment. Now available to manufacturers and materials suppliers for consultation on protective coatings, insulation and choice of engineering materials.
P.O. Box 111 Long Branch, N. J.

Over Forty-five Years of Dependable and Confidential EMPLOYMENT SERVICE

for textile mills, converters and selling houses requiring managers, superintendents, stylers, designers, salesmen, overseers, second hands, fixers, etc. 'Phone, wire or write us your personnel requirements.

CHARLES P. RAYMOND SERVICE, Inc.

Phone: Liberty 6547 294 WASHINGTON STREET, BOSTON 8, MASS.

(Additional Selling & Business Opportunity Advertising on page 284)

REPRESENTATIONS in Textile Machinery

and Accessories. Also of manufacturers or converters of Cottons, Rayons, Woolens and Worsteds and Yarns of all kinds.

Firm established in Santiago, Chile, since 1917, and in Sao Paulo (Brazil) since 1940 (partners American) highly introduced in the textile trade in these markets, with specialised salesman, requires agencies. Own Cotton & Rayon piece goods & knitting mills. Chief executive now in New York. Personal interviews can be arranged. Write to H. G. & Co., 79 Wall Street, (Room 905) New York, N. Y.

MORE PROFITS

FOR YOUR COMPANY LESS WORRY AND EXPENSE

FOR YOU

TO sell your business for cash to a reputable and experienced operating concern with substantial capital may be the best thing for both the company and you.

WE are principals (not brokers) with a record of successful operating experience. Present company personnel retained wherever possible.

• *ALL discussions and negotiations strictly confidential*

Box 1222, 1474 Broadway, N. Y.

Export to Denmark

Textiles, Knit Goods, etc.

Young, wide-awake import firm in Copenhagen with well-established trade connections throughout Denmark, now desires to represent American quality manufacturers or export firms in the following lines of merchandise: textiles, knit goods, cotton goods, linens, gauze, duck, silks. Exclusive representation or agency basis. Excellent bank references.

BJORN HEISE & CO.

P. G. Ramms Alle 68—Copenhagen, F. DENMARK

ATTENTION!

RAYON & COTTON MILLS

Established, well rated New York converter with well planned Post-war expansion program, catering to A-1 Men's and Women's cutting up trade, now seeks connection with mill desirous of entering finished goods field. Capital invested if necessary. Highest reference exchanged.

WRITE BOX 435

1474 Broadway New York (18), N. Y.

WANTED TO PURCHASE

Small Dye Plant—Vicinity of N. Y. C., capable of dyeing and finishing rayon, cotton and wool piece goods. Give full particulars in reply.

W-397, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED

Surplus

Chemicals, Dyes, Gums, Oils, Waxes, Greases, Pigments, Residues, By-Products, Wastes

W-270, Textile World
330 West 42nd St., New York 18, N. Y.

Washington, D. C. Resident Representative

Business man with Government agency staff experience, available to substantial firm as Washington representative in selling to the Government; negotiations with Washington offices of Government agencies; or surplus property purchases. References.

RA-401, Textile World
330 West 42nd St., New York 18, N. Y.

DYESTUFFS

Will buy your surplus and obsolete dyes and chemicals for cash.

NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston, Mass.

AGENCY FOR DENMARK

Young Danish import and export firm with modern and efficient sales organization wants agency or exclusive representation for textile products.
We have a staff of able and efficient workers and we occupy representative offices in the center of Copenhagen.

BEST-SELLER v. Kaj Getting
15, Kultvoret, Copenhagen, Denmark.

WOOLENS-WORSTEDS-WANTED

Will purchase—direct—for cash—part or entire production of your mill men's or women's wear fabrics, coatings, suitings & dress goods.

W-398, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED—COMMISSION SPINNING

2 to 3 Run Yarn—100% Virgin Fine Grade of Wool—Can use 5000 to 10000 lbs. weekly throughout the year. Write

CW-440, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

SMALL WORSTED GREY GOODS MILL

Preferably a going concern of 30-60 Draper or C & K Auto looms, with sufficient drawing and spinning to supply looms with worsted or blend yarns. Send description of machinery. Interested only in fairly modern mill-motorized equipment preferred. References supplied if necessary. Confidential, not a broker.

W-423, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Seven looms. 72" reed space—4 x 4 boxes, 550 Volt motor drive, Dobby or Gem head, oversized shuttles.

W-436, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED COMMISSION DYEING

Have additional facilities for 10,000 to 15,000 lbs. weekly for raw stock dyeing. Can make good deliveries.—Apply

CW-433, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

SUPREME OR BRINTON 22-CUT CIRCULAR KNITTING MACHINES

Write **W-438, Textile World**
330 W 42nd St., N. Y. 18, N. Y.

WANTED

COMMISSION WORK—12 Cut Rib Machines, sizes 14-16"; Supreme, 22 Cut, 10, 12"

CW-439, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED TO BUY

MENS' HOSIERY MILL

Seasoned Executive desires to purchase participating interest in small to medium men's hosiery mill specializing in wools. Will consider outright purchase. Replies held confidential.

BO-427, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED FOR EXPORT

WOOLEN CARDS, 60x60 and 60x48, 3 cylinder.
WOOL SCOURER, 40" wide, 4 sections.

ROSENTHAL EXPORT CO.
530 Broadway New York 12, N. Y.

MILL WANTED TO TAKE ORDERS

On 80 inch Jacquard loom with two cylinders, with changing lathe.

HINTERBERGER
107 W. 70th St., N. Y. 23

WOOLEN MILL WANTED

Will make permanent investment or a long term loan. Established selling organization in need of additional permanent production. Reply in full detail on your proposition. Information will be treated strictly confidential.

W-425, Textile World
330 West 42nd St., New York 18, N. Y.

Wanted

2—18" x 36" Proctor & Schwartz Ceiling Condensers

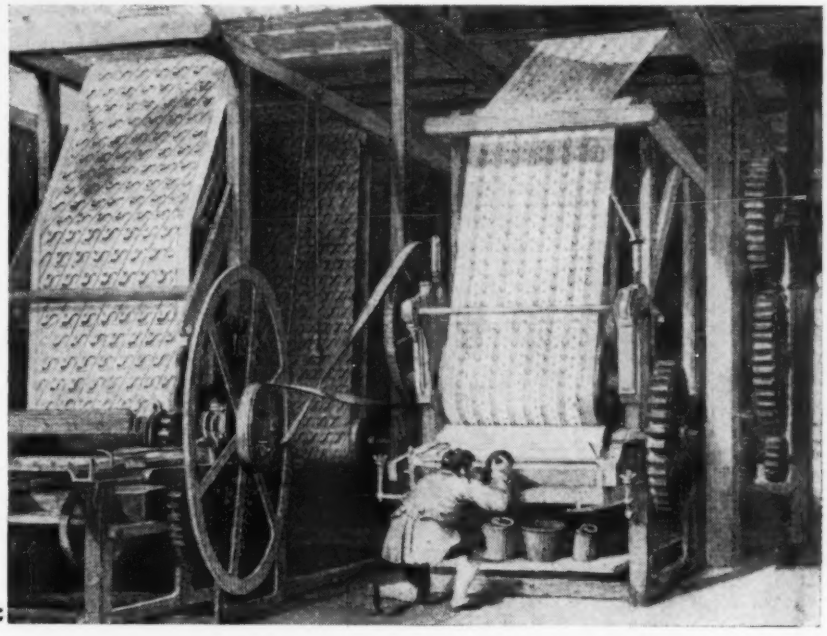
W-442, Textile World
330 West 42nd St., New York 18, N. Y.

(Additional Wanted Advertising on page 292)

Early "roller printing" in England

TEXTILE printing originated in China and India. In Egypt they used engraved wooden blocks. The art came to Europe by the great caravan routes through Persia. Block printing method gave way to roller or cylinder printing in 1785; and Adam Parkinson of Manchester found a way to keep the roller in register so that one color could be printed upon another, which is the method in general use today.

Illustration from the Bettman Archive



SERVING THE TEXTILE INDUSTRY

1—60" C & M Brusher
3—46" x 52" Button Breakers
1—42" Butterworth 3-Roll Friction and Rolling Calender, motor driven.
1 Set of Whitin Combers incl—
1—Whitin Sliver Lapper
1—Whitin Ribbon Lapper
8—Whitin Model C Combers
1—Sargent Yarn Conditioning Machine
1—72" Kenyon 2-Bowl Crab
1—100 Spindle Foster Model 25 Doublers
1—36" Doubling & Winding Machine
1—60" P & W Doubler, motor dr.
1—80" P & W Dbler, Winder & Measurer
1—26" Tolhurst Extractor
1—30" American Laundry belt driven extractor
1—40" Tolhurst extractor, belt-driven
1—60" Broadbent Copper Basket Extractor
1—Van Vlaanderen 5 Can Narrow Fabric Finishing Machine
10—40' C & M 42", 50", 100" Folding Machines
2—Hunter No. 10 Fulling Mills
5—Schiffer Fulling Mills
1—Quade 42" wide Hammer Fulling Mill
1—48" S. & F. single cylinder Garnett
1—52" James Smith Card Grinder
12—82" C & K, 4 x 4, 25 Harness Looms
1—Quade Hammer Mill

WANTED
SCOURING BOWLS
COTTON MILLS
WOOLEN MILLS
WORSTED MILLS
RAYON & SILK MILLS
ALSO
SURPLUS TEXTILE MACHINERY

12—76" cloth Draper modified D automatic looms, 81" reed space with Lacy tops for 6 harness work, motor driven
6—92" C & K 4 x 4 25 Harness Belt driven woolen looms
3—240 sp. D & F 2" gauge Mules
1—80" D. & F. 20 roll Double Acting Napper
1—40" Parkhurst Burr Picker

3—65½" Voelker double bed rotary cloth presses belt driven 16" cyl.
1—66" Gessner double bed rotary cloth press belt driven 12" diameter roll
1—80" Gessner Single Bed Cloth Press
1—84" Voelker Cloth Press, motor driven
1—60" C & M Plush Shear
2—66" C & M 2-Blade Shears
2—66" P & W 2-Blade Shears
1—66½" P & W Model A 2-Blade Shear
1—72" Monforts 2-Blade Shear
1—Shultze 106" Double Shear
1—Smith & Furbush Rag Shredder
1—42" C & M 5 Burner Gas Singer
12—256 Sp. Whitin 2" Ring Spinners
6—24 Spindle Fairmont Drum Spoolers for 4½ x 6" spools
10,000—4½ x 6" Wooden Spools
1—120 Spindle Draper Spoolers
1—60" C & M Tiger, Arranged for Mtr. Dr.
1—50" P & W Winding & Measuring Machine, Motor Driven
2—100 Spindle Foster tube winders, belt driven
1—200-spindle Draper 2¼" Ring Tape Drive Twister
1—96 spindle D. & F. 3½" ring twister
9—100 spindle Saco-Lowell 3½" ring trap twisters.
5—D & F Warpers with Beamers, etc., 82" to 100"
2—54" Entwistle Warpers

MACHINERY LIQUIDATING COMPANY

OPA REGISTRATION NUMBER 789

EST. 1923

31-33 West 42nd Street — NEW YORK 18, N. Y.

DOMESTIC — TELEPHONE PEnnsylvania 6-8014 — EXPORT

SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES

"DEMAND FOR TEXTILE MACHINERY EXTREMELY HEAVY"—

No Wonder Buyers-and Sellers-Who Want Quick Action-Are Satisfied With

McDOWELL ASSOCIATES

Partial List Only — Write for Complete Listing

DYEING & FINISHING

1—Ager 50" cloth.

1—Brush McCreery 54", 2 roll with blower.

1—Brush Vertical 62", 6 rolls, Calender rolling up head.

1—Calender 42" Friction 3 roll.

1—Calender 50" Cotton 3 roll.

1—Calender 60" Friction 3 roll.

1—Can Dryer 144" 4 vertical stacks, 9 cans each, complete motor and drive.

1—Decatur 72" complete with pump.

1—Decatur, Semi 72" with pump and motor.

4—Doublers 40" to 60" cloth.

1—Dryer, Knit Goods Drum type with addtiional Carbonizing section.

1—Dryer, Loop 84" Housing complete.

1—Dryer, Raw Stock Approx. 200-Lb.

1—Dyeing Unit, Skeins 28 arms complete.

3—Dyeing Machines, Skein, 28 to 56 stick.

4—Extractors 24" to 60".

1—Fulling Mill Double Compartment.

1—Pr. Guiders 72"

2—Kettles Woolen Type 6' Boxes.

4—Mangles 40" to 66" 2 and 3 roll units.

1—Measuring Machine 66" with clock.

5—Nappers 66" to 90" width, 20, 24, and 36 roll units.

2—Presses, Rotary 66" and 78" Double Bed Units.

3—Shears Single Blade Units 36" to 80" widths.

2—Shears Double Blade Units 66½".

4—Tenter Frames, Clamp, 10' x 40", 30' x 58", 60' x 80", 90' x 50".

2—Tenter Frames, complete with Housing, 120' x 60", 121' x 72".

1—Steamer, Open, 68" x 21", equipped with blanket.

3—Washers 6' Boxes.

Near 138th Street

CARDING, SPINNING & WEAVING

2—Sets Cards, Woolen, 3 cylinder 48 x 48, Bramwell Feed, Intermediate Feed, rubb condensers.

3—Sets Cards, Shoddy, 2 cylinder 60 x 48 and 48 x 60 complete.

2—Set Cards, Shoddy, 5 cylinder 48 x 48 complete.

Woolen Blanket Weaving and Finishing Mill

75 Automatic 4x1 Looms, complete with WET and DRY FINISHING. Winders and Accessories in excellent condition.

4—Sets Cards, Worsted, 2 cylinder 48 x 48 and 60 x 48 complete.

5—Combers, Worsted, complete with circles.

4—Condensers, Rig Rub, for 48" Woolen Cards.

1—Draw Box 2 spindle 14 x 9.

1—Duster, Intermittent Rag, 48", capacity 800 to 1000 pounds.

2—Feeds, Bramwell and Picker, 36" and 48".

2—Feeds, Bramwell, for Cards 40" and 54".

1—Garnett 3 cylinder 60 x 30, automatic feed complete.

1—Garnett 2 cylinder 60 x 20.

8—Gill Boxes Single-Double head units.

2—Intermediates 9 x 4½, 84 spindles each.

2—Jackspoolers, 48" 60 ends.

3—Looms, Draper, D 40" cloth, 8 harness.

43—Looms, Draper, D 42" cloth, 8 and 12 harness.

150—Looms, C&K 41½" 4 x 1 box.

14—Looms, C&K 92" 4 x 4, Box, 25 harness, motor driven.

20—Looms, C&K 76", Automatic Cam, motor driven.

12—Looms, C&K, Woolen, 82" 4 x 4 25 harness, motor driven.

20—Looms, C&K 92", Automatic Cam, Motor driven.

30—Looms, C&K 56" 4 x 1 box.

50—Looms, Draper, 90" Model L Sheeting type.

24—Looms, Stafford 72" 2 x 1 Box.

18—Looms, C&K 79½" 4 x 1, Box.

2—Mules, 2" Gauge, 210 and 240 Spindle Units.

2—Mules, 650 Splindles each for Worsted.

2—Mules, 288 Spindles each 2¼" Gauge.

4—Openers, Vertical, with Grid-Bars.

1—Picker, Waste, 24" complete.

2—Pickers, Burr, 24" and 48" feed tables, Bramwell automatic feeds.

1—Slubber, 12 x 6, 64 spindles.

2—Slubbers, 11 x 5½, 68 Spindles each.

2—Speeders 8 x 3½, 144 Spindles each.

2—Spinning Frames, Worsted, 3½" pitch, 144 Spindles each.

8—Spinning Frames, Cotton, 3½" gauge, 208 Spnidles each.

2—Twisters 5" ring, 7" gauge, 88 spindles each.

10—Twisters 3" ring, 216 Spindles each.

1—Twisters 2" ring, 128 Spindles.

4—Winders, Lazenby, 30 Spindles each.

5—Winders, Foster, #30—100 Spindles each.

2—Winders, Universal, #80—14 Spindles each.

MISCELLANEOUS Spare Parts, Bristle Brushes, Expander Rolls, Rubber & Wood rolls, etc.

NORMAN M. McDOWELL ASSOCIATES
2568 Park Avenue Bronx 51, New York
Tel.: MElrose 5-1772

NOW FOR VICTORY IN

RECONVERSION

Your idle equipment needed now to

MAKE JOBS FOR AMERICAN PROSPERITY

We will get it into production—act quickly

SEND YOUR LIST TO

"CONSOLIDATED"

BUY AND HOLD YOUR COUNTRY'S BONDS

HONOR OUR RETURNING SERVICE MEN WITH WHAT THEY WANT—JOBS!

EXTRACTORS

6—V.V. & Tolhurst 54" & 60"; rubber & copper baskets.
8—V.V. Fletcher & Tolhurst 40-48", copper lined.
10—Tolhurst, American Laundry, Bock & Troy 14'-42", copper baskets.
2—48" Raw Stock Extractors.
1—Hercules 30" Open Top Extractor.

SCOURING & DYEING

3—Sargent & Lorimer 2&3 bowl scourers.
6—Klauder-Weldon Skein Dyeing Machines.
1—Obermaier Yarn Dyeing Machine.
1—Geyser Type Skein Dyeing machine.
8—Franklin Cast Iron Pkge. Dyers—6-600#.
2—Haveg Totally enclosed dye becks.
1—Sargent Wool Dyer.
5—American Laundry & Zephyr 2 & 3 pocket rotary dyers.
3—Giles Skein Dyers, 28 & 60 sticks.
5—Copper dye tubs, 3'-20' lg.

WATER SOFTENERS

1—Permutit Water Softener, 103" lg. 63" wd.
2—10x10 Vertical Softeners, Zeolite.
3—Pressure Sand Filters, 8' dia. x 20' long, complete.

GARNETS—FULLING MILLS

3—James Smith 3-cylinder Garnetts.
1—P & S Single Cylinder 20x60" Garnett.
1—P & S 2-cylinder 20"x60" Garnett.
2—James Hunter #10 Fulling Mills.

DRYERS

3—National & P & S Loop Dryers, 30-65' long.
1—P & S 72" Paw Stock Dryer, automatic feed.
3—Sargent & Hunter Wool Carbonizers.
1—Phila. Raw Stock Dryer, 48" automatic feeder.
4—Truck Dryers, 1 & 2 trucks.
1—Pin Tenter Dryer, 64" wide.
6—Proctor & Schwartz Yarn Dryers.
1—Multipass Airlay Dryer.
1—V.V. 5-Tier Net Dryer.
2—Heathcote and Kenyon Cloth Dryers.
1—Proctor & Schwartz Hosiery Dryer.
1—Riggs & Lombard Cloth Dryer.
1—Sargent Wool Dryer. 1—P & S Apron Dryer.
1—National Loop Dryer, 96".
2—P & S Hurricane Dryers.
1—P & S Conveyor Dryer—3 aprons.

NAPPERS

2—D & F single acting Nappers, 60 & 84".
3—Gessner & Woonsocket double acting Nappers, 60", 84" & 90".

TENTER FRAMES

1—Textile Fin. Mach., 90'x50" Tenter.
1—W & J 80'x50" Swing Tenter.
1—Heathcote Pin Tenter.

PALMER QUETCHES & TENTERS

2—V.V. Palmers, 60" & 72".
3—Morrison & V.V. 50", 60" & 72" Palmer Quetches.
1—Butterworth 80" Palmer.
2—V.V. & General Machine 60" Palmerettes.

PADDERS, MANGLES, QUETCHES

5—Textile & Butterworth 2-Roll Pad, 50", 62", 90".
1—Butterworth 2-Roll 80" Padder.
4—Butterworth 50" 2-Roll Starch Mangles.
1—James Hunter 50" Water Mangle.
5—Butterworth & Morrison 2 & 3-Roll Quetches, 50-72".

BUTTON BREAKERS

3—Morrison & V.V. Button Breakers, 50-72", brass rolls.

REAMERS—BATCHERS

4—Van Vlaanderen 50" & 60" Beamers.
9—Batchers, 48"-72".

COATING MACHINES

Plastic and rubber coaters, 50"-72".

BRUSHING MACHINES

2—P & W Cloth Brushers, 72" & 100".

FLAT FOLDERS & DOUBLERS

4—E & Hall Flat Folders, 42"-60" with motors.
3—P & W & Windle 46"-60" Doubling, Reeling & Measuring.
1—96" Doubling & Folding Machine.

SEWING MACHINES

5—Morrow 60ABB & 60D3B on stands and tracks.
3—Union Special and Singers.

SLASHERS—DECATERS—DRY CANS

3—Saco-Lowell-Cotton Slashers.
1—P & W 72" Decater.
355—Dry Cans, 50" to 112" face, 23" to 84" dia.

WASHERS

1—Continuous 60" Boil-Off Machine, steel tanks.
1—Van Vlaanderen 60" Open Washer.
2—Open Washers, 5 & 8 compartments, 50" face.
1—3-Compartment Monel Rotary Washer.
1—60" Open Washer.
2—Cloth Washers, 4 & 12 strings.

1—FRANKLIN 3 COLOR 45" PRINT MACHINE. COMPLETE.

4—60" MONEL LINED JIGGS, COMPLETE.

1—TEXTILE PALMER 60" COMPLETE.

CALENDERS

2—V.V. Ball Bearing Calenders, 50" & 60".
6—V.V. Butterworth & Textile, 3, 6 & 7-Roll Hydraulic Calenders, 80".
3—Butterworth & Perkins 40", 54" & 80" 3-Bowl Schreiners.
2—54" and 65" Embossers.
1—Farrell 3-Roll Calender, 65".

SHEARS

3—P & W 2-Blade Shears, 60" & 66½", complete with lint saving device and brushes.

DYE BECKS—DYE JIGS

1—Butterworth Scouring Jig.
12—Morrison & V.V. 6' to 9' Dye Becks, stainless steel and wood tubs.
4—Morrison Dye Jigs, 50", S.S.

PRINTING MACHINES

4—R. B. & F. 1-10 color Print Machines, 40"-60".
1—V.V. 10-color Ribbon Print Machine.

TUBERS

5—Tubing & Measuring Machines, 50"-60".
1—Hermas 60" Measuring Machine with Motor.
3—New 60" Beamers.

WEAVING MACHINES

24—C & K 92" automatic looms.
13—C & K 82" automatic looms.
10—Draper 79" automatic looms.
52—C & K 52" automatic looms.
24—C & K 4x4 Automatic Tapestry Looms, 64".
30—72" Jacquard Looms, C & K.

KNITTING MACHINES

150—1" to 21" Circular Knitting Machines.
4—Wildman 23" Ribbers.
2—Grosser Knitting Machines.

PRINT MACHINE & EQUIPMENT

2—BTA & BTS Motors, 25, 35 & 50 horsepower.
Star gears, mandrels, copper pans & doctor blades.
1—Franklin 3-Color 45" Print Machine. Complete with Jack, and 8 Copper Rolls.

AGERS—KETTLES

2—Butterworth Cast Iron Agers, 18' & 30' lg., 50-60" wide.
4—Textile Copper Steam Jacketed Color Kettles, tilting, agitated, 40-150 gallons.

PREPARATORY MACHINES

2—Sargent & C & M Burr Pickers.
2—30" Rag Pickers.
1—40" Kitson Pickers.
1—40" Mixing Picker.
2—Saco Lowell Condensers.
2—Saco Lowell Vertical Openers.
4—Pangborn Dust Collectors.
1—Conical Duster with dust blower.
1—Sargent Cotton Picker

CARDING MACHINES

14—Sets D&F Wool Waste Cards, 48" x 48".
3—Sets D&F Woolen Cards, 48" x 48".
1—Woolen Card, 49" x 60" diameter.
3—Sets D&F Worsted Cards, 60"x54".
2—Sets D&F Worsted Cards, 60" x 48".
2—Sets D&F Worsted Cards, 54" x 54".
2—Furbush Worsted Cards, 48" x 48".
6—Sargent, Bramwell & Harwood Feeds.
1—Barker Triple Rub 3-back condenser.
16—Whitin D-2 Combers.
8—Hetherington Silver & Ribbon Lap Machines.
2—5-cylinder 48"x48" Shoddy Cards, equipped with Bramwell Feeds & metallic breasts.
3—Bramwell 60" Card Feeds.

SPINNING & YARN MACHINES

52—Whitin & D&F Spinners 240-252 spindles 2"-3½" gauge, band driven.
1—D&F Wool Spinner, 4½" gauge.
35—Deliveries H&B Drawing Frames, 12" coilers.
1—J&B 336-spindle Mule.
6—Platt Worsted Mules.
1—Sipp Double Deck Winder.
1—P-S Ring Twister, 5" band drive.
3—Fletcher Double Deck Winder.
2—Foster #101 Cone Winders.
12—Universal #50 & #90 Winders.
8—Atwood 50-B Spinners.
2—Sipp 72" Warpers.
3—Whitin & Atwood Skein Reelers.
4—Jack Spoolers, complete with creels.
7—H&B Speeders, 5" gauge.
2—Foster #12 Winders.

"AMERICA'S BEST BUYERS" WANT YOUR IDLE EQUIPMENT

SINGLE ITEMS TO COMPLETE PLANTS

SEND US YOUR LIST NOW

THE KEY TO SAVING TIME AND MONEY

FOR OVER A QUARTER CENTURY A SYMBOL OF CONFIDENCE

CONSOLIDATED PRODUCTS COMPANY, INC.

Address All Textile Inquiries to

TEXTILE DIVISION, PATERSON 2, N. J.

33-41 BERGEN ST. TEL. ARmory 4-6540

15 Park Row, New York 7, N. Y. Tel. BArclay 7-0600

AGER, Tower
AGITATOR, 2 propeller
AGITATOR, Lightning, Model D2
AGITATOR, Porter, Whirl Pool
BEAMERS, New 60" x 60" motorized
BEAMER, 60", Van Vlaanderen
BOIL-OFF UNIT, Van Vlaanderen 40'
CALENDER, 4 roll, 50" Hydraulic
COTTAGE STEAMER, 14' x 84"
DECATER, Semi C&M 72" x 12" dia.
DECATER, Full Gessner
DRIVES, Reeves #0-#1—Llewellyn #10
DRY CANS, 12 copper 50" x 28" vert.
DRY CANS, 144" x 23" vert. Copper
DRYER, Loop P & S 30' x 84"
DRYER, National Loop, Booster type fans 60' x 84"
DYE BECKS, stainless steel 4' to 20'
DYE TUGS, wood, 6' 10' 12' comp. motorized
DYEING MACHINE, KW 28 stick, 48" wide Monel
EMBOSSER, 54" Textile 2 pair rolls, Hydro.
EXPANDERS, Rubber face, 72"
EXTRACTORS, Beam 50" & 60" BB
EXTRACTOR, Open Top Tolhurst 40"
EXTRACTORS, VV Copper basket 54"
EXTRACTORS, VV Rubber basket 60"
EXTRACTOR, Gessner, Vacuum 72"
FANS, Exhaust 3 blade propeller, 30"-36"-48"
FLOCK STENCIL MACHINES, with Patterns
FLAT FOLDERS, Elliott & Hall, Adjustable
FULLING MILLS, Hunter #10
INFRA RED units, complete with blowers
INSPECTION TABLES, with DC motors 47"
JIGGS, monel lined 60", St.St. 50" & 60"
MEASURING MACHINE, P & W, model AWC
MOTORS, BTA, 7½ HP, 40 HP
MOTORS, Over 300 GE ¾ to 5 HP 220 volt
PACKAGE DYEING MACHINE, Obermaier
PALMER, 62"
PALMER QUETCH, 54" Butterworth
PALMERETTE, 60" face, General Machine
PRINT MACHINE, 3 color 60"
PRINT MACHINE, 1 color 60"
PRINT MACHINE, 10" sample or Ribbon
QUETCH, 3 roll, Morrison 60" Ball bearing
QUETCH, 2 roll, Morrison 66" Ball Bearing
QUETCH, 2 roll Van Vlaanderen 50"
RIBBON FIN. UNIT, Complete
RIBBON PRINTING MACHINE, 10 color-14"
SEWING MACHINES, Arlington, Bicycle
SEWING MACHINES, Merrows 60ABB and 60D3B
SHEAR, Hermas 4 knife 70" wide
SQUEEZE ROLLS, 12" x 10"
TANK, rubber lined and covered
TENTER FRAME, W & J 30' x 50" wide
TIGERS, Dry P & W & C & M
TUBER, with Examining board 80"
TUBERS, Paterson Variable speed motor
TUBER, VV with Doubling attachment
WARP COMPRESSOR CREEL
WASHER, GL Rope Type
WASHER, 3 compartment Open
WOOL WASHERS, J. Hunter, 6 & 8 ft.
WATER SOFTENER & FILTERS

We are prepared to help you in disposing of or acquiring both complete plants and individual machines. Your inquiries cordially invited.

CADGENE MACHINERY CO.
5th Ave. & McLean Blvd.
P. O. Box 1206 Paterson 4, N. J.
Sherwood 2-6577

HARRY STEPHENSON
IMPORTER, DEALER AND MANUFACTURER
TEXTILE MACHINERY AND APPLIANCES
New and Used
River Works, Andover, Mass.

FOR SALE

2—Pair Ring Doffers for 60" Cards 60 ends.
2—Worcester Warp Compressor Spoolers 32" drum
1—Tolhurst 40" Extractors, copper basket.
2—E&H Flat Folders & Scroll (rayon) 40" & 46".
1000 Foster Tensions 32-38

BOBBINS—SPOOLS—SKEWERS

We are prepared to assist you with your bobbin requirements. Our shops are fully equipped for re-conditioning, re-sizing or re-enameling your bobbins or spools and to re-tip skewers. We have the largest stock to select from. Send us your samples—we will reply promptly.

Direct Factory Agents Walter L. Parker Bobbin & Spool Co.

BAY STATE TEXTILE CO.
220 HARTWELL STREET • FALL RIVER, MASS.

LOUIS J. WELSH, Pres. & Treas. — ROBERT H. WELSH, V. Pres. & Gen. Mgr.

JOHN J. McCLOSKEY, Inc.
MANUFACTURERS AND DEALERS
TEXTILE MACHINERY OF ALL TYPES
APPRAISALS WOOLEN—WORSTED—COTTON LIQUIDATIONS
NEW AND USED
Office Factory Warehouse: Collingswood, N. J.

GAINES TEXTILE MACHINERY CO.
Dealers In Rebuilt and Guaranteed Yarn Winding and Spinning Machinery
141-45 West 17th Street New York 11, N. Y.

- Printing Machines
- Dry Cans
- Calenders
- Quetches
- Extractors
- Tentering Frames
- Beamers & Tubers
- Doubling & Folding

Looms—Warpers—Winders—#90 & #50 Universals
Ribbon Machinery & Equipment

A. & M. BLANK CO., INC.
49 STATE ST. PATERSON, N. J.
Sherwood 2-1367 Lambert 3-9523

FOR SALE
30" LOOMS
75—Draper 30" Model E used looms in good condition. Complete with Lacey top motions, pulleys, shafting, beams, etc. Located in South.
AMES BAG CO.
10 East 40th St. New York, N. Y.

FOREIGN MILL OWNERS

In buying Used American Made Textile Machinery, you need protection and advice that you can depend on. We are thoroughly experienced practical textile mill men that know our business.

We are not Machinery Dealers. Through our many sources, we will obtain for you the exact equipment to meet your requirements.

We do not deal direct, but through reputable Exporters. We can supply you with the names of these Exporters, with top Dun & Bradstreet Ratings, and you can be assured that they will protect your interests in every way.

LAWRENCE H. KELLY
Textile Machinery Consultants
P. O. Box 2442
Paterson, New Jersey, U. S. A.

FOR SALE

3—18" Gerry Rag or Shoddy Pickers
1—54" D & F Fearnaught Mixing Picker
1—60" Furbush Card with Feed and P & S Lapper
1—8 Bar 26" Mixing Picker
2—40" C & M Parkhurst Burr Picker
1—Schofield Auto Willow
15—#90 Universal Winders
20—#50 Universal Winders
3—#30 Foster Coners with Worsted Skein supply
1—#21 A Foster Tuber
300 Jack Spools 32⅛" between heads
12—108" C & K, 4x4 box, 25 Har. Looms
2—P & W 66" Double Shears
1—66" Voelker D B Press
1—Voelker 80" D. B. Press
2—90" 20 roll D & F S. A. Nappers
3—60" Ring Doffers

FRANK W. WHEELER COMPANY
1837 E. Ruan St. Phila. 24, Penna.

HOSIERY MACHINES
KNITTERS - RIBBERS - LOOPERS
CYLINDERS - DIALS - TRANSFERS
RIBBER CYLINDERS & DIALS
UNION SPECIAL SEAMERS
NEEDLES FOR EXPORT
C. M. FRENCH
Commercial Trust Bldg., Philadelphia 2, Pa.

KNITTING MACHINES
Scott & Williams — Banner — Wildman — Reading — Kalio — etc., etc.
All types of hosiery mill equipment on hand
THE MORRIS SPEIZMAN CO.
508-14 West Fifth St. Charlotte, N. C.

FOR SALE
TWISTER
80 spindle fly twister to twist 3 turns per foot or 4 twists per inch. Now running and in good order.
OXFORD MILLS, INC.
No. Oxford, Mass.

DIESELS
ROBERT SCHOONMAKER
Port Washington, Long Island, N.Y.
Phone Roslyn 1220

Excellent Textile Equipment

LOOMS

100—Draper Model K 45" Looms, Belt Driven, 8" Bobbin.

600—Draper Automatic Looms with Slashing Auxiliary equipment.

200—C & K 2 x 1 Looms.

200—600 hook C & K Double lift jacquard heads.

32—C & K #1304 Fine Index Double lift single cylinder heads.

WINDERS

15—Universal Winders with Bunch Builders.

EXTRACTORS

2—60" Steam Driven Centrifgal Extractors, Perforated Copper Baskets, Quick Opening Cover, 600 R.P.M.

CAN DRYERS

1—6 Can Dryer, Copper Cans, 23" diameter, 50" face, complete with exception of motors.

1—Textile Can Drying and Rolling-up machine, Copper Can 36" diameter, 50" Face.

1—Textile Finishing Machinery Company set of 8 Copper Cans—2 stacks, 4 Cans to a Stack, Vertical Stacks, 50" wide.

1—Textile Finishing Machinery Co. Copper can dryer consisting of 8 cans, 23" dia. 54" face with take-up, let-off. Reeves Variable Speed transmission.

1—Textile Rolling-up and steam machine equipped with copper can 40" dia. 48" face.

1—Textile Finishing Machinery Co. 8 Can Dryer, consisting of Copper Tinned Cans, 23" diameter, 54" Face with Take-up, Let-off, Reeves Drive, A.C. Motor.

1—Van Vlaanderen 5-tier, 4 section Conveyor Dryer, with Rods, 60" face, Motor Driven Fans, Airfin Heating Units.

DYEING EQUIPMENT

1—Rice, Barton & Fales Dye Jigg, 50" Roll, Wooden Tub, Metal-lined, complete with 2 Motors, 230 Volt, D.C.

4—Textile Dye Jiggs, 54" Wooden Tub, 2 Rubber-covered Ball Bearing Top Rolls, 4 Stainless Steel Immersion Rolls, Bevel Gear Drive with 1 DeLaval Worm Reduction Gear Unit, Direct connected to Lincoln 10 H.P. A.C. Motor, 550 volts, 60 cycle, 3 phase, 1200 RPM, with Control.

TENTER FRAMES

1—Textile 40' Pin Tenter Frame, Link Belt Drive, #3 Reeves General Electric 5 HP, 60 Cycle, 3 Phase Motor, 60" wide, General Electric Guiders, Steam Heating Coils.

1—30' Clip Type Butterworth Tenter Frame, with Tenter Clips.

COTTAGE STEAMER

1—Robert Metcalf Cottage Steamer, 10' long x 8' wide.

DYE BECKS

1—Stainless steel lined 18" dye beck Tank 18" x 30" x 96" Single Slot reel, Brass Idler rolls. Geared link chain drive.

1—20' Stainless Steel-lined Dye Beck.

QUETSCHES

1—Van Vlaanderen 3 roll quetsch 60" face, Motor driven, chain drive by 1 h.p. General Electric AC Motor.

SCUTCHERS

1—Textile 58" Roller bearing Scutcher.

Special Sale

Complete cotton spinning unit. 6,000 spindles. May be inspected operating.

KNITTING MACHINES

120—Circular Rib Knitting Machines, 10" to 18", 8 feed, 10 cut to 13 cut.

SEWING MACHINES

Singer, Union Special, Merrow, Metropolitan and Willcox & Gibbs Flatlocks.

COUNTERS

34—Veeder-Root, Cloth Counters.

FOLDERS

1—Eastwood Gray Goods Folder, 60" wide.

3—E & H Flat Folders, 45" to 60" wide.

KETTLES

7—Copper Steam Jacketed Mixing Kettles, equipped with Double Motion Bronze Agitators, 70 to 350 Gallon capacity.

METERS

G. E. Steam flow meter.

DECATORS

1—Parks & Woolson 72" Semi-Decator, with Blanket, Nash Vacuum Pump and Motor.

PRINTING MACHINES

2—R. B. & F. 42" Multicolor printing machine.

PRINT MACHINE MOTORS

5—Print Machine Motors, 23 to 35 H.P.

PUMP

1—#1 Nash Engineering Pump, Type 960.

BUTTON BREAKERS

2—50" Van Vlaanderen Button Breakers.

CHAIN

1—Hoey Tenter Chain, 1100 Textile Brass Tenter Clips.

REMEMBER
Republic Textile
EQUIPMENT COMPANY
40 WORTH STREET NEW YORK CITY
Purchase and Sale of Used Machinery
REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES

SURPLUS MACHINERY LIST

ITEM 100-E

CAN DRYER

Butterworth—27 cans—tin 144" Face x 24" Diam. Complete with Drive but without Motors

ITEM 10056

1—SCUTCHER

72" wide complete with vacuum pump and variable speed drive

ITEM 757-A

WHITIN QUILLING MACHINE

304 Spindle—3½" Gauge—10½" Traverse. Model J

ITEM D-11002

OPEN TYPE TENTER FRAME

Butterworth—Straight-away No. 00 Top-Opening Clamps 60 ft. long x 84" Wide Max. 24" W. Min.

ITEM 11001

1 COMPLETE BACK WASHING UNIT

ITEM 11001-A

BACK WASHER

1—set of 2 bowls, 33" wide x 7' 4" long inside measurement x 14" deep.
2—set Nip Rolls—11" dia. x 26" face in #1 & #2 bowl
1—Nip Roll #2 bowl—13" dia. x 28" face. Upper roll Rubber covered. Lower roll Brass
3—brass Nip Rolls 5" dia. x 28" face in each bowl

ITEM 11001-B

BACK WASHER DRYER

Taylor Wadsworth & Co., Lt'd., 9 cylinder—41" C side x 11' 10" long x 7' 6" high containing 9, 23½" dia. x 31" dryer drums
5—pair glass panelled doors & 1 hatch door in top slope.

ITEM 11001-C

DOUBLE HEAD BALLING GILL BOX

C. & A. 6' 8" wide x 5' 6" long
Above trains of three—all belt & chain driven by 25 H.P. G.E. Motor, 900 R.P.M.

ITEM 5594

4 CYLINDER P. & W. TIGER

Serial 6445—66 inches wide

ITEM 9793

1 CURTIS & MARBLE SHEAR

66 in. (Belt Driven) Single Cylinder

Collins & Aikman Corp.
SALES & SALVAGE DIVISION
Located at Our Plant "L"
6th & Upland Aves.
Upland, Delaware Co., Pa.
Phone - CHESTER 4167

TWISTING
WINDING
KNITTING
BRAIDING
ROPE
MACHINERY

Complete stocks of Winding, Twisting, Braiding, Knitting and Rope Machinery at reasonable prices.

Immediate cash for your surplus Twisting, Winding, Braiding, Knitting and Rope Machinery. Send your list today.

Textile Equipment Specialists

ROBERT SOLOMON & CO., Inc.
30 WEST HOUSTON STREET • NEW YORK, N. Y.

TEXTILE AUXILIARIES

FOR IMMEDIATE DELIVERY FROM OUR OWN STOCK

1—84" National Loop-Dryer 32' Long
3—100 HP Motors 400 & 440 V. 2 Phase 600 RPM.
1—75 HP 440 Volts 2 Phase—690 RPM.
1—50" Sprinkler
1—66" Brusher 3 Tampico Brushes—5 Wire
1—80" Warp Chain Dryer with 7½ HP Motor
2—A & G 50" Loop Dryers
1—B & B Baling Press
2—E & H Folder 48 & 50" Wide
6—50" Jigs Wood Tubs
6—50" Jigs All Stainless Steel

1—125 H.P. Harris-Corliss Steam Engine
1—50" Gessner Apron Press
1—54" Embossing Calender (Hydraulic)
3—44" Shreiner Calenders (Hydraulic)
2—Jack Copper Kettles Agit. & Stand 75 & 100 Gails. Cap.
28—44" Copper Cans 23" Diam.
30—40" Copper Cans 23" Diam.
3—36" Hydro-Extractors
1—6 Bowl 50" Calender (Roller Bearings)
1—Prosp. Steam Press
1—Singer Sewing Machine 47W 120

TEL. DEXTER 9650 **1128 N. MAIN ST.**

PROVIDENCE, R. I.

FOR SALE

20,000—8" Standard Whitin Speeder Bobbins
50,000—8" Standard H & B Speeder Bobbins
300—Pair of 22" Mossberg Loom Beam Heads
100—40" Loom Beams complete with Heads—Roper left off
1—Draper Twister — 4" Gauge — 180 Spindles—Tape Drive 2½" Rings—Equipped with Knee Brakes
4—Saco Lowell Vertical Openers with Grid-Bars
53—Whitin 3" Gauge Band Drive Spinning Frames—240 Spindles Metallic Thread Guides
3,000—Tape Drive Twister Spindles
4—8 x 3¾ Saco Pettee Speeders—152 Spindles each, with Casa Blanca long draft installed 1932, also Bobbins and Skewers
1—Hygrolite Machine
20,000—#1 Double Flange—2" Spinning Rings and Plate Holders
2—Whitin Spirawhirl Cleaners
1—Barber Colman 60" Stationary Tying-in machine
100—Draper Model "E" 44" Looms—Belt Driven

"ALL INQUIRIES ARE GIVEN OUR IMMEDIATE ATTENTION."

TEXTILE SALVAGE COMPANY
P. O. Box 1461 Charlotte 1, N. C.

FOR SALE

Four 5-cylinder 48 x 60 shoddy cards equipped with metallic breast and automatic feed. Wire in good condition, graduated from 32 to 36.

One 1000-pound Klauder-Weldon raw stock dyeing machine, direct drive, stainless steel perforated plate.

Four Schofield shoddy pickers, standard size.

FRED WHITAKER COMPANY
Ridge Avenue & Scott's Lane
Philadelphia 29, Pa.

FOR SALE

Several hundred rolls water proof paper-various widths-smooth and creped. Also 100 rolls creped inner liner 54" wide-samples sent upon request

BANGOR MILLS, INC.
201 Pa. Avenue, Bangor, Pennsylvania

FOR SALE

BUTTERWORTH CALENDER

7 ROLLS—80" FACE

3 Composition Rolls, 4 Steel Rolls, Hydraulic lift —water-cooled journals. Located in South.

AMES BAG CO.
10 EAST 40TH ST. NEW YORK CITY

3-SHIFT PICK CLOCKS

800 Waltham 3-shift pick clocks, just removed from Stafford Looms. Can box for quick export sale.

MAVERICK MILLS
East Boston, Massachusetts

FOR SALE

24 Spindle Oswald Lever Bottle Bobbin Machines

All metal with Parafine Attachments
Excellent Condition

FS-421, Textile World
330 West 42nd St., New York 18, N. Y.

FOR SALE

EXTRACTORS

2—48" Hercules—1 Inconel, 1 Rubber lined basket, aluminum covers 7½ HP, 220V, 3P, 60 Cycle Motors

Morgan Dyeing & Bleaching Co.
ROCHELLE, ILL.

One—3-compartment 60" Van Vlaandern Wooden Open Washer, (erected) with 2 sets of Squeeze Rollers, 1 Brass—1 Rubber each set—no motor.

FS-434, Textile World
330 West 42nd St., New York 18, N. Y.

The PATERSON WAY

Paterson's complete stock of ready-to-go textile equipment offers you these important advantages:

1. **Immediate delivery**
2. **Less initial cost**
3. **Increased production—now!**

Consult us on your particular needs and learn why Paterson Service is the Accepted Standard of Value.

TWISTERS for LARGE PACKAGES

98—Fletcher double deck spinners, 64 spindles each deck or 128 spindles to the machine. Each deck individually motor driven by a 3 H.P. motor. 7" center to center spacing. 5" cork covered take-up rollers.

AUTOMATIC LOOMS

40—Crompton & Knowles 4x1 automatic looms, 25 harness dobbies, 55" reed space, 52" cloth space, ¾ H.P. motors, sliding bar stop motions, 1½ paperless beams for loom, pick counter etc.

- 24—Crompton & Knowles—4 x 4—48" Jacquard Looms
- 30—Crompton & Knowles—2 x 2—48" Jacquard Looms

  Above Looms complete with paperless beams electric warp stop motion, pick counter, individually motor driven, extended bottom shafts for double lift Jacquards
- 150—Crompton & Knowles—600 hook double lift Jacquard machines.
- 12—Crompton & Knowles, 4 x 1, 52" Looms, roller bearing, shock absorber, high pick-wheel, removable cloth rollers individually motor driven, warp stop motions and pick counters formerly used for tie silks & dress goods.
- 16—56" 4 x 4 Crompton & Knowles Jacquard looms
- 10—4 x 4, 64" Crompton & Knowles Worcester looms, roller bearings—shock absorbers, motor driven, extended bottom shafts for Jacquards
- 200 Universal #90 quillers or coppers, with or without bunch builders, belt driven or motor driven
- Sipp or Atwood winders to wind from skein to spool
- Sipp or Eastwood warpers and creels
- 40—78" 2 x 1 Crompton & Knowles looms. Roller bearing, shock absorber 20 harness, intermediate head, individually motor driven, ¾ h.p. motors
- 120—45" reed space, Draper automatic looms, 2 harness, roller motion gooseneck cutters, Roper let-offs, positive feelers, worm take ups.
- 10—76" 4 x 4 Crompton and Knowles woolen looms, 25 harness, intermediate head, motor driven
- 23—75½" reed space Stafford Automatic bobbin change looms, 2 harness, roller top, ratchet take-up, friction let-off, positive feelers
- 16—64½ reed space Stafford looms as above described

NUMEROUS OTHER LOTS OF MACHINERY

LOOMS
WARPERS
WINDERS
JACQUARD MACHINES
SPINNING AND THROWING MACHINES

Write us of your particular requirements. Immediate attention given to every inquiry.

Shuttles - Quillers
COPPERS
FINISHING MACHINES
DYEING MACHINES
TEXTILE MOTORS
HARNESSES

PATERSON
SILK MACHINERY EXCHANGE

24 Spruce St., Paterson, N. J. **SHerwood 2-1363-4-5**

WANTED

LOOMS

We are interested in a small weaving unit containing from 12 to 30, 82" 4 x 1 automatic looms, 4 bank electric warp stops and one or two dressers. Also Winders for warp and filling. Machines should be in good condition. Write

W-426, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

SMALL LOT OF

C & K W TYPE LOOMS WITH KNOWLES HEAD, 68" BETWEEN SWORDS, 25 HARNESS, 4 x 1 BOX

MUST BE IN GOOD MECHANICAL CONDITION.

W-446 Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Rayon Weaving Mill

Up to 125 Looms

Address Replies To

W-445, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

One Foster 6 spindle, Model 40, five or six inch traverse, cone winder for back winding wool yarn. Must be good condition. Advise price.

ROCK RIVER WOOLEN MILLS
JANESVILLE, WISCONSIN

WANTED

1304 Hook Fine Index Single Lift . . .
9 Inch Lift Jacquard Machine.

W-424, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

300 and 500 lbs. Housong dye pots and cages for raw stock dyeing. Also, 1000 lbs. automatic wool baler. Also, large exhaust fans. Apply

W-437, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED TO PURCHASE

4 Rib Knitting machines 12 cut with pattern wheels and stripers 16 inches up

4 Stafford & Holt jersey sinker top knitting machines 10 cut 8 feed with stripers 18 inches up

2 Rip Knitting machines with pattern wheels 6 or 8 inches 12 cut

GLENSHIRE SPORTSWEAR CO.
221 Fourth Avenue New York 3, N. Y.

WANTED

2 Bank batten for ribbon loom 15 ft. 7 in., 2 in. reed space.

W-428, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

40" Flat Top Cards—Saco-Lowell or Whitin Co. and Lap Pickers.

write

TEXTILE MILLS
3948 W. Roosevelt Road Chicago, Ill.

FOR SALE

20—DRAPER MODEL-E-LOOMS
34 in. Wide
10—DRAPER MODEL-E-LOOMS
36 and 38 in. Wide
Equipped with Stop Motions, Fittings Etc.
A.A.A. Deluxe Weavers—
4907 North Bernard St.
Chicago 25, Illinois Phone Keystone 6175

WANTED

1—MERROW SEWING MACHINE

Model 60-D3-B. Must be in good condition. Advise Price. Immediate delivery.

ROCK RIVER WOOLEN MILLS
JANESVILLE, WISCONSIN

FOR SALE

WHITIN NOVELTY YARN TWISTING MACHINES

200 Spindle—2½" Vertical Ring—Individual Motor Tape Drive—Excellent condition.

FS-420, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

SEVEN 45" COTTON CARDS

WILL CONSIDER 40"

ATLANTA WOOLEN MILLS CORP.
598 Wells St., S.W., Atlanta, Georgia

FOR SALE

20—100 spindle Federal Spinners. Each machine equipped with individual motor drive. Reply to

FS-432, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Two Smith-Drum or similar type 8 or 9 pocket Monel Dye Machines. One 400 Lb. or 500 Lb. Monel Franklin or Smith-Drum Package machine.

NATIONAL DYE WORKS
1417 W. Jackson Blvd. Chicago 7, Ill.

LEGAL NOTICE

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of Textile World, published Monthly, at Albany, New York, for October 1, 1945.

State of New York }
County of New York } ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared J. A. Gerardi, who, having been duly sworn according to law, deposes and says that he is the Secretary of the McGraw-Hill Publishing Company, Inc., publishers of Textile World and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the name and address of the publisher, editor, managing editor, and business manager is: Publisher, McGraw-Hill Publishing Company, Inc.; Editor, Edwin D. Fowle; Managing Editor, William B. Dall; Business Manager, William Buxman; all of 330 West 42nd St., New York 18, N. Y.

2. That the owner is: McGraw-Hill Publishing Company, Inc., 330 West 42nd Street, New York City. Stockholders holding 1% or more of stock: James H. McGraw, James H. McGraw, Jr., James H. McGraw, Jr., Curtis W. McGraw and Edwin S. Wilsey, Trustees for: Harold W. McGraw, James H. McGraw, Jr., Donald C. McGraw, Curtis W. McGraw, all of 330 West 42nd Street, New York City; Edwin S. Wilsey and Curtis W. McGraw, Trustees for James H. McGraw, 3rd, Madison, New Jersey; Curtis W. McGraw, 330 West 42nd Street, New York City; Donald C. McGraw, 330 West 42nd Street, New York City; Mildred W. McGraw, Madison, New Jersey; Wilson C. Lauck, Spruce and Canal Sts., Reading, Pa.; Grace W. Mehren, 73 No. Country Club Dr., Phoenix, Ariz.; Margaret Stump, 1418 Rose Virginia Rd., Wyomissing Park, Reading, Pa.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

J. A. GERARDI, Secretary

McGRAW-HILL PUBLISHING COMPANY, INC.

Sworn to and subscribed before me this 20th day of September, 1945.

[SEAL] ELVA G. MASLIN
(My commission expires March 30, 1946.)

With the industrial picture changed— CRESCENT brings you a Service able to meet every demand of todays' conditions!

LIQUIDATIONS • APPRAISALS • PURCHASE • SALE

COMPLETE WOOLEN, WEAVING AND FINISHING UNIT

including 44—Crompton & Knowles 82" 4x1 box Automatic Looms with Gem heads

12—Crompton & Knowles 82" 4x4 box Looms with Gem heads

Also a complete Wet and Dry Finishing Unit sufficient to handle production of the above looms. Can be operated at present location, Newnan, Georgia. Complete particulars furnished upon request.

OPENING AND PICKING

2—Saco-Lowell #4 Bale Breakers with extended apron feed, 1922 and 1923 Models
1—Kitson Card and Picker Waste Unit with 24" Automatic Hopper Feeder
2—Greenl.aigh Willows with Fans, belt driven
1—Woonsocket 42" Bale Breaker
1—Saco-Lowell Vertical Opener, adjustable grids, belt driven
2—Woonsocket Vertical Openers, perforated screens
1—Saco-Lowell Cage Section, ball bearing
1—Howard & Bullough Vertical Opener, grid cone, H&B screen section
2—95" Sargent Automatic Feeders, belt driven
5—Kitson 40" Breaker and Finisher Pickers, belt driven
1—Lummus 3-delivery Gyrator
1—Kitson Downstroke Cleaner, 42" wide
1—Centrif Air Machine, bronze blades, fans top and bottom
2—Saco-Lowell 45" Single Process Pickers
1—Howard & Bullough 3-section Single Process Picker, 1920 Model
1—Woonsocket-Whitin Simplex Picker, Style No. 43, motor driven

CARDS

1—Cleckheaton 4-cylinder Woolen Card 48"x 72", Bollette Condenser

ROVING

2—Whitin 12x6 Slubbers, 72 spindles each, belt driven
3—Saco-Pettee 12x6 Slubbers, 72 spindles each, belt driven
2—Woonsocket 12x6 Slubbers, 84 spindles each, belt driven
2—Saco-Pettee 10x5 Intermediates, 96 spindles each, belt driven
6—Whitin & H & B 9x4½ Intermediates, 96 and 108 spindles each, self-balanced carriage, belt driven
20—Woonsocket 8x4 Speeders, 136 spindles each belt driven
4—Woonsocket 8x3½ Speeders, chain drive, 160 spindles each, ball bearing top rolls
54—Saco-Lowell & Saco-Pettee 7x3½ Speeders, 144, 160 and 176 spindles each, belt driven
44—Saco-Pettee & Whitin 6x3 Jack Frames, 200 spindles each
2—Whitin 11x5½ Slubbers, 80 spindles each, belt driven
4—Woonsocket 11x5½ Slubbers, 60 spindles each, belt driven
4—Howard & Bullough 11x5½ Slubbers, 72 spindles each, belt driven
4—Saco-Lowell 8x4 Speeders, 144 spindles each, belt driven
4—Howard & Bullough 8x4 Speeders, 144 spindles each, belt driven

COMBERS

72—Whitin Combers, 8 deliveries
14—Whitin Sliver Lap Machines, 20 ends
14—Whitin Ribbon Lap Machines, 4 deliveries

SPINNING

33—Whitin 3" gauge, band drive Spinning frames, 216 spindles each, 1½"—#1 flange ring
14—Whitin-Pease Model Wool Ring Spinning Frames, 3½" gauge, 1¾" rings, 180 spindles each, belt driven

TWISTERS

5—Whitin Band Drive WET Twisters, 3" gauge, 1¾" ring, 256 spindles each
2—Whitin Band Drive WET Twisters, 6" gauge, 4½" ring, 132 spindles each, belt driven
2—Whitin Band Drive Dry Twisters, 5" gauge, 4" ring, 128 spindles each, belt driven
2—Whitin Band Drive Dry Twisters, 3½" gauge, 2¼ ring, 192 spindles each, belt driven
2—Howard & Bullough Band Drive Dry Twisters, 3" gauge, 2" ring, 240 spindles each, belt driven

SPOOLING, WARPING AND WINDING

17—Easton & Burnham & Draper Spooters, 4¾" gauge, 180 spindles each, band driven
25—Draper & Entwistle 54" Beam Warpers with Creels
7—Foster #12 Cone and Tube Winders, 80, 100 and 112 spindles each, motor and belt driven
2—Foster #30 Winders, 100 spindles each, cone wind, belt driven
6—Foster Model #25 Doublers, 60, 80 and 100 spindle machines, motor driven
1—Whitin Long Chain Quiller, 128 spindles, 4¼"x4½" gauge, belt driven
45—Universal #50 Cone Winders, 6 spindles each, "L" head type drive, 2 equipped with yardage clocks, motor driven
14—Whitin Model F Skein Reelers, 54" to 60" skeins, 50 spindles each, belt driven

LOOMS

118—Draper Modified "D" Worsted Looms, 79½" reed space, Lacey tops, belt driven
30—Draper Model "K" Looms, 45" reed space, Lacey tops, belt driven
106—Draper Model "E" Looms, 41" reed space, 2-harness roll tops, motor driven by 220 volt motors
30—Draper Model "K" Looms, 51" reed space, Stafford thread cutters, 4-harness roll tops, electric stop motion, belt driven
61—Crompton & Knowles 4x1 Automatic Bobbin Changing Looms, 43" between swords, 20-harness C & K dobbies, belt driven
6—Draper Model "L" Automatic Looms, 88" reed space, motor driven
50—Stafford Automatic Shuttle Chaning Looms, 100" reed space, motor driven
Hundreds of other Looms too numerous to mention here.

FINISHING

1—3-Ton Allen Kier
30—Copper Can Dryer, 23" diameter x 42" face, vertical stacks
29—Copper Can Dryer, 23" diameter x 42" face, vertical stacks
2—Rodney Hunt Rope Soapers, rubber rolls
2—40" Dye Jiggs, cast iron tubs, rubber top rolls
1—36" Face Textile Finishing Machinery Company 3-roll Friction Calender, lever set, 2 chilled iron rolls, 1 paper filled roll, motor driven through V belt drive by 15 H.P. Slip Ring Motor, 550 volts, 3 phase, 60 cycles. Purchase new 1936, used but 6 months. Used for narrow fabrics
1—50" Butterworth 5-roll Chasing Calender
1—48" Granger 3-roll Friction Calender
1—Kemp Industrial Gas Unit with Spencer Turbo Compressor
1—48" 3-roll Water Mangle
1—Textile 50" Ager, 24' long
1—Troy Laundry Dryer
Elliot Flat Folders, 40" to 72".
1—54" Van Vlaanderen Extractor, motor driven
1—42" Schaum & Ulinger Extractor, motor driven
1—Buhlman Skein Dyeing Machine, equipped with 110 arms, 1931 Model, motor driven

PRINTING MACHINES

8—Rice, Barton & Fales 1, 3, 5, 6 and 7 color Printing Machines, with back grey drying cans

MISCELLANEOUS

Motors, Transformers, Pumps, Shafting, Pulleys, Hangers, Generator Units, Machine Shop Equipment, Fans. Please write us your needs.

STAINLESS STEEL CAN DRYER

1—Butterworth 35-can Stainless Steel Dryer, 23" diameter x 130" face new stainless steel cans, self-aligning roller bearings, 100 tooth cut gears, individual traps and syphons, Johnson joints, steel vertical frames

COCKER 5-CAN RAYON SLASHER

1—Cocker Machine & Foundry Company 5-can Rayon Slasher, cotton system, cans 23" diameter x 57" face, ball bearing with Minneapolis-Honeywell automatic controls, monel metal size box with temperature and size level control, equipped with motor driven blower and hood to give equivalent of 7-can capacity, complete with Reeves Drives. Motors, Cut Marker, Stretch Control, etc., 1935 Model.

Our New York Office is especially equipped to meet the requirements of the export trade.

CRESCENT CORPORATION

JACOB ZISKIND
President

MACHINE TOOLS
ELECTRICAL EQUIPMENT
TEXTILE MACHINERY

26 FRONT STREET • FALL RIVER, MASS. • TEL 7-9423

NEW YORK CITY OFFICE
40 WORTH ST. TEL. CORT. 7-1562

CHARLOTTE, N. C., OFFICE
817 JOHNSTON BLDG. TEL. CHARLOTTE 2-4197

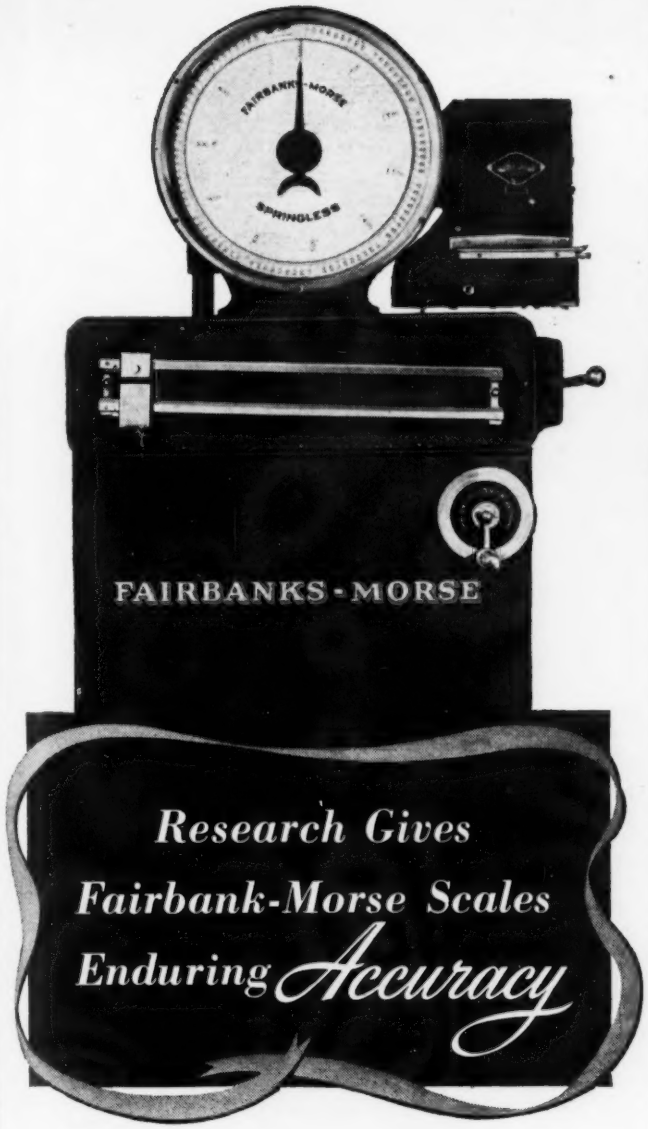
DAMP-TEX
ENAMEL
FOR WET
EQUIPMENT
and WALLS
FRIEND
OF THE PLANT
OWNER...WHO HAS
A WET SURFACE
MAINTENANCE PROBLEM
The Damp-Tex system of painting kills rust, rot, fungus and bacteria. Stops deterioration. Can be applied on any paintable surface, wet or dry, with equal ease and efficiency... changing dingy, rough light-blotter interiors into glistening porcelain-like beauty. One coat covers. Resists acid, alkali, corrosive gases and oxidation. Dries overnight without flavor-tainting odor into waterproof film. Comes in white and colors.
Write for our trial offer.
LIQUID PORCELAIN-LIKE
DAMP-TEX FOR
WET
OR DRY
SURFACES
STEELCOTE MFG. CO. • ST. LOUIS, MO.
Canadian Manufacturer—Standard Paint & Varnish Co., Windsor, Canada

INDEX TO ADVERTISERS

An * indicates additional data is in the 1944 Textile World Yearbook and Catalog

*Abbott Machine Co. 84
Acme Knitting Mach. & Needle Co. 271
*Acme Steel Co. 258
Air Permeator Mfg. Co. .. 274
Alabama Power Co. 34
Aldon Spinning Co. 267
Alleghany Ludlum Steel Corp. 23
Allen Company 258
*Allis-Chalmers Co. 7, 15
*Alloy Steel Products Co. . 101
American Air Filter Co. .. 14
American Crayon Co. 226
American Cyanamid & Chemical Corp. 37
American Cyanamid Co. (Textile Resin Dept.) .. 233
American Gas Association 201
American Magnesium Corp. 95
*American Monorail Co. .. 42
American Thread Co., Inc. 140
American Viscose Corp. .. 199
American Woolen Co. 275
American Yarn & Processing Co. 280
Aralac, Inc. 197
Arco Co., The 240
*Aridye Corp. 191
*Arkansas Co., Inc. 269
Arlington Mills 262
Armstrong-Bray & Co. 281
*Armstrong Cork Co. 29
*Armstrong Mach. Works . 194
*Ashworth Bros. Inc. 36
Atlantic Rayon Corp. 248
*Atlas Electric Devices Co. 208
*Bahnson Co. 200
*Barber-Colman Co. 263
Barnes Co., Henry K. Inside Back Cover
Becco Sales Corp. 146
Boger & Crawford Co. 142
*Booth Co., Benjamin 229
Borne-Scrymser Co. 277
Bradley Washfountain Co. 198
Breuer Electric Mfg. Co. .. 275
Brinton Co. 273
Buffalo Forge Co. 58
Bunting Brass & Bronze .. 87
Burkart-Schier Chem. Co. 264, 266
*Butterworth & Sons Co. .. 126
*Caldwell Co., W. E. 281
Calgon, Inc. 212, 216, 220
*Cameron Machine Co. 261
Carbomatic Corp. 253
Century Electric Co. 99
*Chapman Elec. Neut. Co. . 278
Cheney Bros. 192
*Chicago Pneumatic Tool .. 100
C. I. T. Corp. 138
Cities Service Oil Co. 50
Clipper Belt Lacer Co. 22
Cloverleaf Mfg. Co. 278
*Cocker Mach. & Fdry Co. 150
Cole Mfg. Co., R. D. 218
Commercial Factors Corp. Inside Front Cover
Commonwealth Color & Chem. Co. 254
Cooper Co., Chas. 273
Corn Products Sales Co. .. 265
*Crabb & Co., Wm. 130
*Crane Co. 88
*Crane Mfg. Co. 271
Crocker - Wheeler Div. Joshua Hendy Iron Wks 187
*Crompton & Knowles Loom Works 74
Crouse-Hinds Co. 69
*Curtis & Marble Mach. Co. 229
Dana Warp Mills 267
Darnell Corp., Ltd. 206
*Dary Ring Traveler Co. .. 246
*Davis & Furber Mach. Co. 267
*Dayton Rubber Mfg. Co. .. 47
Devoe & Raynolds Co. 270
*Diagraph-Bradley Stencil Mach. Corp. 261
Diamond Alkali Co., Standard Silicate Div. .. 277
Diastafor Division, Standard Brands, Inc. 230
Dietert Co., H. W. 276
*Dinsmore Mfg. Co. 273
*Dommerich & Co., L. F. .. 54
Dow Chemical Co., The 134, 148
*Draper Corporation 1
Draper Soap Co. 214
*Du Pont de Nemours & Co., E. I. Finishes Div. 83
Durant Mfg. Co. 250
Eastern Commercial Travelers 208
Eastern Stainless Steel Corp. 31
Elastic Stop Nut Corp. of America 25
Emery Industries, Inc. 239
Eriez Mfg. Co. 55
*Fairbanks, Morse & Co. .. 295
Falls Yarn Mills 232
Federal Tel. & Radio Corp. 57
*Fidelity Machine Co. 274
*Finnell System, Inc. 20
*Fletcher Works, Inc. 225
Flexible Steel Lacing Co. . 272
Ford Motor Co. 68
Franklin Process Co. 35
*Fuller Brush Co., The 173
Gardner-Denver Co. 18
*Gates Rubber Co., The ... 76
General Chemical Co. 132
General Dyestuff Corp. 73
*General Electric Co. 32, 33
(Lamp Dept.) 169
Gilmer Co. L. H. (Div. of U. S. Rubber Co.) 79
Goodrich Chemical Co., B. F. 24
Goodyear Tire & Rubber Co. 19
Greenville & Northern Ry. Co. 253
Gulf Oil Corp—Gulf Refining Co. 98
Hagan Corp. 212, 216, 220
Hart Products Corp. 257
Hild Floor Machine Co. ... 186
Hinde-Dauch 97
Hooker Electrochemical Co. 247
Houghton & Co., E. F. 71
*Howard Bros. Mfg. Co. ... 12
*Hunt Mach. Co., Rodney . 258
*Hunter Machine Co., J. ... 205
Huyck & Sons, F. C. 268
Hyatt Bearings Division, General Motors Corp. .. 207
Hydraxtor Co. 255
*Industrial Steels, Inc. 181
*Ingersoll-Rand 10
International Nickel Co. .. 90
*International Salt Co. 255
*Ives Co., L. T. 275
Jenkins Sons, M. W. 224
Johnson & Sons, S. C. ..61, 91
Johnson Fan & Blower Co. 239
Johnson Mach. Wks. C. B. 190
Kaumagraph Co. 163
Keever Starch Co., The .. 279
Kenyon & Son, D. R. 279
*Lane & Bros., Inc., W. T. . 281
*Lawrence Leather Co. A. C. 179

(*Continued on page 296*)



Research Gives Fairbank-Morse Scales Enduring Accuracy

Fairbanks-Morse Scales have earned their world-wide reputation for enduring accuracy through constant research to improve even the most minute parts—through research in the selection of the most enduring materials—through research in design to perfect each part.

This has been the Fairbanks-Morse policy for over a hundred years, and it continues today.

Skilled craftsmen produce these parts with the aid of modern machines. Trained assemblers put them together. A weighing machine so constructed performs accurately day after day, year after year.

Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Illinois.

Fairbanks-Morse

A name worth remembering

Diesel Locomotives • Diesel Engines • Generators
Motors • Pumps • Scales • Magnetos • Stokers
Railroad Motor Cars and Standpipes • Farm Equipment

GOOD COMPANY

You'll be in "good company" when you locate your plant in Seaboard territory. The record of success enjoyed by textile operators in this section constitutes an unqualified testimonial to the numerous advantages that are indigenous to this area.

If you want to put your plant where conditions are most favorable, get the benefits of our detailed knowledge—knowledge acquired through years of experience in locating industrial plants.

Our staff of trained specialists will supply you quickly with complete information on sites that are suited to your needs.

There is no charge for our services and your inquiry will be held in confidence. Simply address:

Dallas T. Daily
General Industrial Agent
Seaboard Air Line Railway
Norfolk 10, Virginia

SEABOARD

AIR LINE RAILWAY

THROUGH THE HEART OF THE SOUTH

Textile Manufacturers

You'll Find Great Opportunities in PROGRESSIVE PENSACOLA

• Recent events such as the ICC readjustment of class freight rates, production of ramie and root starches in the Everglades and Latin-American trade prospects make Pensacola a "natural" for textile manufacturers.

Consider:

Pensacola has a wide variety of raw materials with cotton in the adjacent territory and with water transportation for South Florida ramie and sizing starch. An ample supply of soft water, 99.98 per cent pure. Pensacola's ideal situation in relation to the increasingly prosperous southern, mid-western and Latin-American markets.

• In addition, Pensacola has plenty of low-cost power, natural gas, oil and coal. Labor is largely native born and cooperative. The average annual temperature of 67.7 degrees is ideal for working and living. Taxes are low.

• Pensacola's magnificent harbor has 32 feet of water at dockside . . . two railroads with excellent facilities . . . a major airline . . . and an intracoastal waterway providing sheltered barge transportation.

• Pensacola invites you to write today and let us show you specifically what Pensacola offers you.

INDUSTRIAL DEVELOPMENT DIVISION . . .
MUNICIPAL ADVERTISING BOARD
PENSACOLA Florida

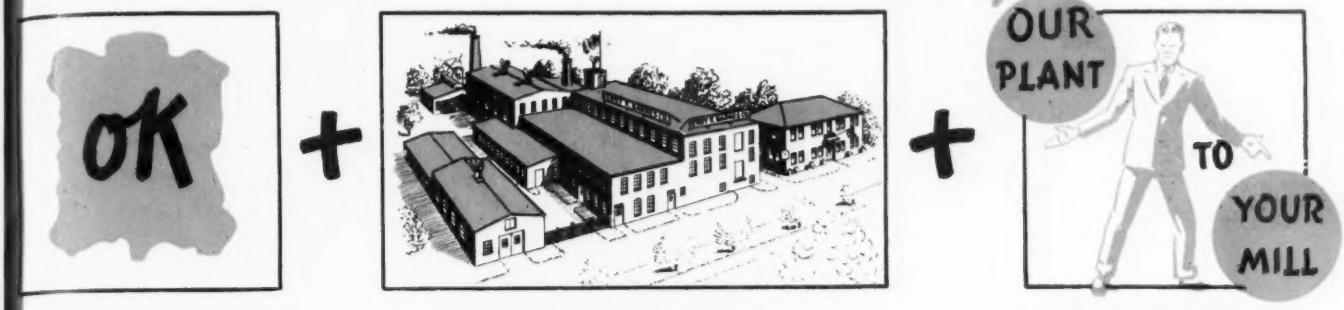
(*Continued from page 294*)

Lazenby & Co., F. A. 232
Leighton Mach. Co. 213
Lestershire Spool & Bobbin Co. 167
Loper Co., Ralph E. 278
*Lowell Shuttle Co. 196
Lubriplate Division, Fiske Bros. Refining Co. 242
Lunkenheimer Corp. 204
Maguire & Co. J. P. 255
Manheim Mfg. & Belting Co. 80
Market Forge Co. 232
*Mathieson Alkali Works. 2
McGraw-Hill Book Co. . . 252
Meese, Inc. 276
Merrow Machine Co. 271
Milton Mach. Wks. 268
Minot Hooper & Co. 182
Moisture Register Co. 255
Monomac Spinning Co. . . . 262
*Monsanto Chemical Co. . . 39
*Mount Hope Machy Co. . . 257
Murray Mfg. Co. D. J. . . . 261
National Aniline Division Allied Chem.&DyeCorp. 53
*Nat'l Drying Machy. Co. 218
National Lead Co. 78
National Oil Products Co. 249
*Nat'l Ring Traveler Co. . . 267
*Nat'l Starch Products. . . . 165
New Departure, Div. of General Motors. 11
New Hampshire State Planning and Dev. Comm. 217
New Haven R. R. 221
Niagara Alkali Co. 227
N.Y. & N.J. Lubricant Co. 86
Nonquit Mills 262
Norfolk & Western R. R. 236
*Norma-Hoffmann Bearings Corp. 96
Oakite Products, Inc. 253
Old Dominion Box Co. . . . 144
*Onyx Oil & Chem. Co. . . . 245
Oronite Chemical Co. 156
Otis Elevator Co. 70
Page Steel & Wire Div. American Chain & Cable Co., Inc. 185
Parks-Cramer Co. 256
Pathe Tool Mfg. Co., Inc. 214
Penick & Ford, Ltd. 277
Pennsylvania Salt Mfg. Co. 128
Pensacola (Industrial Dev. Div. 296
*Perkins & Son, B. F. 38
Phila Quartz Co. 211
Pick Mfg. Co. 85
Pike Co., E. W. 266
*Pittsburgh Corning Corp. . 92
*Pittsburgh Plate Glass Co., Columbia Chemical Div. 67
P.O.M. Co. 266
Powell Co., Wm. 82
*Powers Regulator Co. 238
Prince, Smith & Stells. . . . 46
Procter & Gamble Co. 40
*Proctor & Schwartz, Inc. 136, 177
Pyrene Mfg. Co. 184
Railway Express Agency, Air Express Div. 180
Ravonier Inc. 215
Red Ray Mfg. Co. 264
Reeves Pulley Co. 89
Refinite Corp., The. 230
*Reiner, Inc. R. 219
Republic Steel Corp. 65
Reynolds Metals Co. 27
Richmond Oil, Soap & Chemical Co. 234
*Riggs & Lombard Inc. 220
Robison Processing Co. . . . 212
Rome Soap Mfg. Co. 279
Ryerson & Son, Inc., J. T. 158
*Saco-Lowell Shops 6
Safety & Maintenance Co. 193
Sandoz Chemical Works. . 17
*Sarco Co 49
*Sargent's Sons Corp. 48
Saylor & Son, F. D. 258
*Scholler Bros., Inc. 241
*Scott Testers, Inc. 241
Scott & Williams, Inc. . . 8, 9
Seaboard Air Line R. R. . . 295
Sinclair Refining Co. 72
Sirrine & Co., J. E. 280
Sisalkraft Co., The. 202
SKF Industries Inc. 66
*Smith Drum Co. 189
Socony-Vacuum Oil Co. . . 13
*Solvay Sales Corp. 258
*Sonneborn Sons, Inc., L. . . 171
*Sonoco Products Co. 161
Southworth Machine Co. . 272
Split Ballbearing Co. 257
Staley Mfg. Co., A. E. . . . 209
*Standard Chemical Products, Inc. 154
*Standard Soap Co. of Camden 222
Star Electric Motor Co. . . 75
Steel Heddle Mfg. Co. . . . 195
Steelcote Mfg. Co. 294
*Stein-Hall Co. 251
Sterling Ring Trav. Co. . . . 224
Sun Oil Co. 124
Sylvania Electric Products, Inc. 203
Taylor Instrument Cos. . . . 62
Taylor-Stiles Co. 244
Tennant Co., G. H. 30
Tennessee-Eastman Corp. . 77
*Terrell Machine Co. 270
Texas Co. . . . . Back Cover
Textile Banking Co. 210
Textile Mach. Works. 93, 94
*Thomas & Skinner Steel Prod. Co. 216
Tide Water Asso. Oil Co. 44, 45
Tompkins Bros. Co. 275
*Torrington Co., The. . . 63, 64
Trust Company of Ga. 260
Tubize Rayon Corp. 28
Ultra Chem. Wks. Inc. . . . 51
Union Special Mach. Co. . 231
United Autographic Register Co. 56
US Bobbin & Shuttle Co. . 26
U. S. Gutta Percha Paint Co. 81
*U. S. Ring Traveler Co. . . 226
U. S. Textile Machine Co. 234
Universal Winding Co. 102, 174
*Van Vlaanderen Mach. Co. 43
Virginia Smelting Co. 281
Vita-Var Corp. 5
Wabash Appliance Co. . . . 178
WAK Industries 280
Waldron Corp., John. . . . 59
Wallerstein Co., Inc. 279
*Walton Laboratories, Inc. 222
Watson-Williams Mfg. Co. 264
Wayne Mfg. Co. 232
West Disinfecting Co. . . . 188
*Westinghouse Elec. Corp. 16, 41, 152
West Pt. Fdy. & Mach. Co. 60
*Whitin Machine Works. . 21
*Whitinsville Spg. Ring Co. 267
Whitman Co., Inc., Wm. . 262
Whitney Chain & Mfg. Co. 52
Wildman Mfg. Co. 237
Willcox & Gibbs Sewing Mach. Co. 223
Wolstenholme Co. 267
Wright Mfg. Division, American Chain & Cable Co., Inc. 183
Wyandotte Chem. Corp. . . 243

■ ■ ■

SEARCHLIGHT SECTION
(Classified Advertising)
See pages 282 to 293

Barnes Service is Complete ..

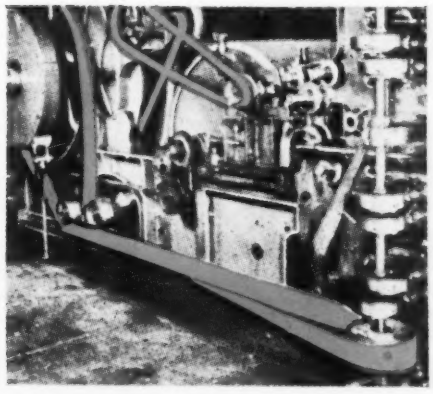


SELECTED HIDES — OUR OWN TANNERY — DIRECT SERVICE

That's why you get Greater Textile Production from

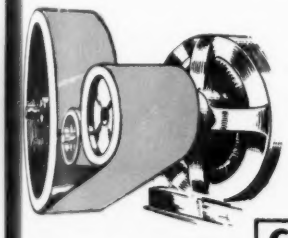
BARNES BELTINGS

Yes—Barnes produces Belting for every problem of textile production. But that only begins to tell the story of Barnes service to the Textile Industry. This service begins with the selection of the hides themselves . . . we buy only the FINEST Foreign and Premium Domestic Steer Hides . . . taken from properly fed steers killed in the best months of the year . . . hides free of grubs, barbedwire scratches, slaughter cuts or any other imperfections. All Barnes belting is put together throughout with waterproof cement and made strictly from first-quality center stock. All belting is pre-stretched, run in, and tested. Special treatments against mineral oils, steam, acid fumes, etc., are given on request. Write for thickness schedule and price list.



REEMAY and **BARNES OAK**

For condenser drives, eccentric drives, mule drives, spinning-frame drives, Gaulois pulleys, and generators. Reemay ply goes next to pulley for high coefficient of friction; oak ply on top, for weight and firmness.

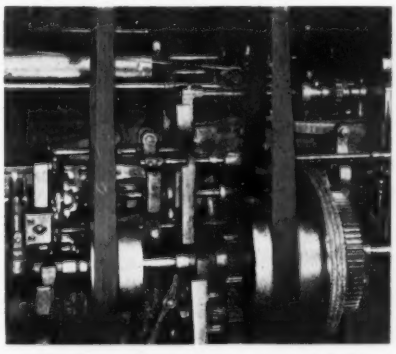


GAM-OIL

Used for longer life on idler, high-speed, and open drives; small pulleys; overloads; shockloads; and short centers. Resistant to oil and heat. Tanned in Gambier by our long-time process. Greater tensile strength than Oak Tan. High transmitting capacity. Very flexible. Specially curried. Hand processed by skilled workmen.

MINERAL TAN and **BARNES OAK**

For drives in wetness, excessive moisture, or high humidity conditions where shipper or flange pulley are involved. Mineral Tan ply goes next to pulley to withstand moisture without slipping or stretching.



GAM-OIL and **BARNES OAK**

Specifically used on overloaded drives for immediate starts with no slipping or stretching. Gam-Oil ply, which has the highest coefficient of friction of any of our leathers, goes next to pulley. This belt is especially adaptable to picker drives which have changing loads.

HENRY K. BARNES COMPANY • SALEM, MASSACHUSETTS

BARNES THE Textile Leather HOUSE

SINCE 1876

Where unusual knowledge of leather is combined with long years of Textile experience

APRONS—BELTING • FLAT • ROUND • & ACCESSORIES—STRAPPING

How many of these **FIBRE CONDITIONING BENEFITS** are you now getting?

YOU GET THEM AL

with TEXSPRAY FIBRE CONDITIONING SERVICE

TEXSPRAY Fibre Conditioning, successfully used in leading mills for the past ten years, is a complete service comprising: (1) a superior fibre conditioning agent and (2) a unique method of application *at the proper point for best results.*

The conditioning agent—*Texaco Texspray Compound*—is a product developed especially for fibre conditioning and used solely for that purpose. Its effectiveness in producing the benefits that add up to improved yarn quality has been demonstrated in mill after mill.

The method of applying *Texaco Texspray Compound* and its point of application are unique. A special "contact" applicator, conceived and patented by The Texas Company, applies the conditioner *to the cleaned stock* in the beater chamber. This applicator operates under constant hydrostatic pressure and has visible feed control. Its exclusive "wiping" action assures uniform distribution throughout the lap. Each fibre receives its equal share by direct contact, without waste.

Furthermore, mill efficiency is increased by the *healthier working conditions resulting from reduction of visible fly.* And *fire hazard is greatly reduced* because there is no atomization by compressed air, no lint-collecting oil film on machinery and picker room walls.

You can enjoy the benefits of Texspray Fibre Conditioning Service if your mill is located anywhere in the principal textile areas of the U.S. Get in touch with the nearest of the more than 2300 Texaco distributing plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

This 20-page booklet tells the whole story. Write today for your copy of "FIBRE CONDITIONING WITH TEXSPRAY COMPOUND."

TEXACO

REG. T.M.

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

TUNE IN THE TEXACO STAR THEATRE WITH JAMES MELTON EVERY SUNDAY NIGHT—C